

Selecting PPP Projects

This stage comprises a decision making process that starts with a list of the priority Public Sector development projects in the Highway sector and ends with a list of potential highway PPP projects. These projects will have been prioritized through the planning processes within Government.

This stage can be applied by the responsible agencies and at all levels of government i.e. central, provincial, municipal and local. It assumes, and starts with, a public sector development program consisting of a list of highway projects that may be tentatively proposed for a range of implementation modalities under both public, private and IFI (or combinations thereof) funding options.

The stage is completed with agreement by the concerned authority that one of more priority highway projects is/are highly suitable for implementation under a PPP modality and therefore are passed to the next stage for feasibility type studies which provide the appropriate levels of due diligence required by Government authorities.

This stage includes ensuring proposed PPP projects pass an initial value for money test and are appropriate for funding under the PPP modality.

This stage also shows the usefulness of value-for-money (VfM) tests and how VfM can be simplified for use in developing economies, including examples illustrating alternative calculations.



Various Guidelines from the Government of India including: Scheme For Support To Public Private Partnerships In Infrastructure. Ministry Of Finance Department Of Economic Affairs (Infrastructure Section) July, 2005



Various Guidelines from the Government of Pakistan including: Project Preparation/Feasibility Guidelines for PPP Projects August 2007MOF/IPDF

Also:



www.unece.org/trans

Identification of Potential PPP Projects

In Module 3, the organization and sector planning considerations were described. A number of preliminary criteria for PPP projects were introduced at the public sector highway investment program stage. This is also to ensure appropriate and relevant data are collected initially that can be used at this stage.

Consequently, a needs analysis should have already been completed earlier (as part of the national planning process). In Stage 1 of this Module, the public project needs analysis is re-confirmed related to highway projects, some of which will likely have potential for PPP.

The needs analysis will include:

- Ensuring all public projects have a strong technical and economic rationale
- Ensuring all potential PPP projects are included in the Government development program
- Ensuring all projects have support from the relevant stakeholders.

PPP project identification will be undertaken by the contracting authority, either the highway authority if there is one, or the line ministry concerned. Project identification should include input from stakeholders as follows:

- 1 **Contracting Agencies:** The contracting agencies will annually screen all projects to identify those they recommend implementing on a PPP basis.
- 2 **Line Ministries:** Line ministries may in some special circumstances add other projects, subject to them being of national priority. However, these additional projects would be subject to subsequent treatment like any other projects.
- 3 **Provincial, Municipal and Local Governments:** The opportunity should be given to all levels of government to submit additional projects, assuming these are not already included in the programs of line ministries or their own programs especially where projects may be within two or more local areas.
- 4 **Input from Stakeholders including users, the general public, NGOs and the private sector:** Public consultation is discussed in the Section below.
- 5 **Multi and Bi-lateral Agencies:** They will be consulted including on projects which may attract or require their funding.

Prioritization

The list of sub-sector projects should first be subject to a multi criteria analysis. An initial prioritized list of PPP projects would be produced by (or in some cases submitted to) the appropriate Contracting Authority 'team', probably 3 or 4 representatives of its different divisions and possibly with a representative from the line ministry and/or ministry of planning or finance and/or Central PPP Cell.

This will provide an initial prioritized list but naturally one would expect flexibility in application. It may be useful to divide the list into three; high, medium and lower priority according to the criteria applied. Projects in each sub section could be considered of roughly equal priority rather than in rigid numerical order. Naturally, projects with good PPP attributes such as manageable and transferable risks, probably financially viable and 'most ready' would be the highest priority.

Decision Making and PPP Selection

The following list prepared within a Transport Paper-TP1, by World Bank in 2004 provides a useful checklist of factors to be considered at various stages in the PPP process including consideration of Value for Money (VfM).

FACTORS TO BE CONSIDERED IN PROJECT SELECTION AND PRIORITIZATION FOR PPP
1. Initial Preliminary Screening: Project Objectives
Project meets overall tests of economic value
Government has clearly set out aims for deploying private sector skills and capital
Initially proposed risk allocation realistically reflects ability to bear risk
Access and affordability of services to the poor maintained or increased
Project meets, or will meet, IFI environmental and other safeguards
2. Subsequent Screening: Practicality
Adequate enabling legal and compliance environment
Government willing to cede appropriate commercial controls to private sector to achieve project objectives
Credibility of full/partial cost recovery proposals through user fees/budget contributions
Strong administrative capacity by promoting ministries
Government willingness to fund and recruit experienced advisors
Record of successful PPP's in the country in other sectors
Record of similar and successful PPP's in the sector in other countries
Expectation of continuing commitment through changes of government
Record of fair and transparent procurement
Existence of or credible plans for regulatory arrangements which will be adequate to protect the parties in their delivery of proposed objectives (see 2.5)
Strong early private sector interest including likelihood of financing at acceptable risk premiums
3. Final Detailed Screening: Value for Money
Likely net benefit compared to public sector approach
Proposals are financially sustainable taking account of sensitivity to assumptions (and possibility of renegotiation where sensitivity to aggressive market or cost assumptions is high)
Impact on government capital expenditure and long-term operating expenditure is realistic and sustainable, allowing for contingent liabilities.

Source: Public and Private Sector Roles in the Supply of Transport Infrastructure Services (Paul Amos) Workshop on Public-Private Partnerships in Highways, Sponsored by TUDTR and IEF Riga April 3, 2004.

The table helps the PPP process in a number of ways.

Firstly, it defines a check list of the important factors in PPP project selection.

Secondly, it shows three levels and moves from broader objectives, to an intermediate 'practical' level and finally a more quantified level when data is available.

Thirdly, it implies/shows that Value for Money is a goal to be sought throughout the PPP process.

Stage 1 of this Module therefore introduces VfM but it should be remembered that VfM can be assessed at several stages in the PPP cycle as more information becomes available. Stage 1 includes broad VfM criteria under project objectives within the following Multi-Criteria Analysis which aids decision makers in selecting and prioritizing PPP projects.

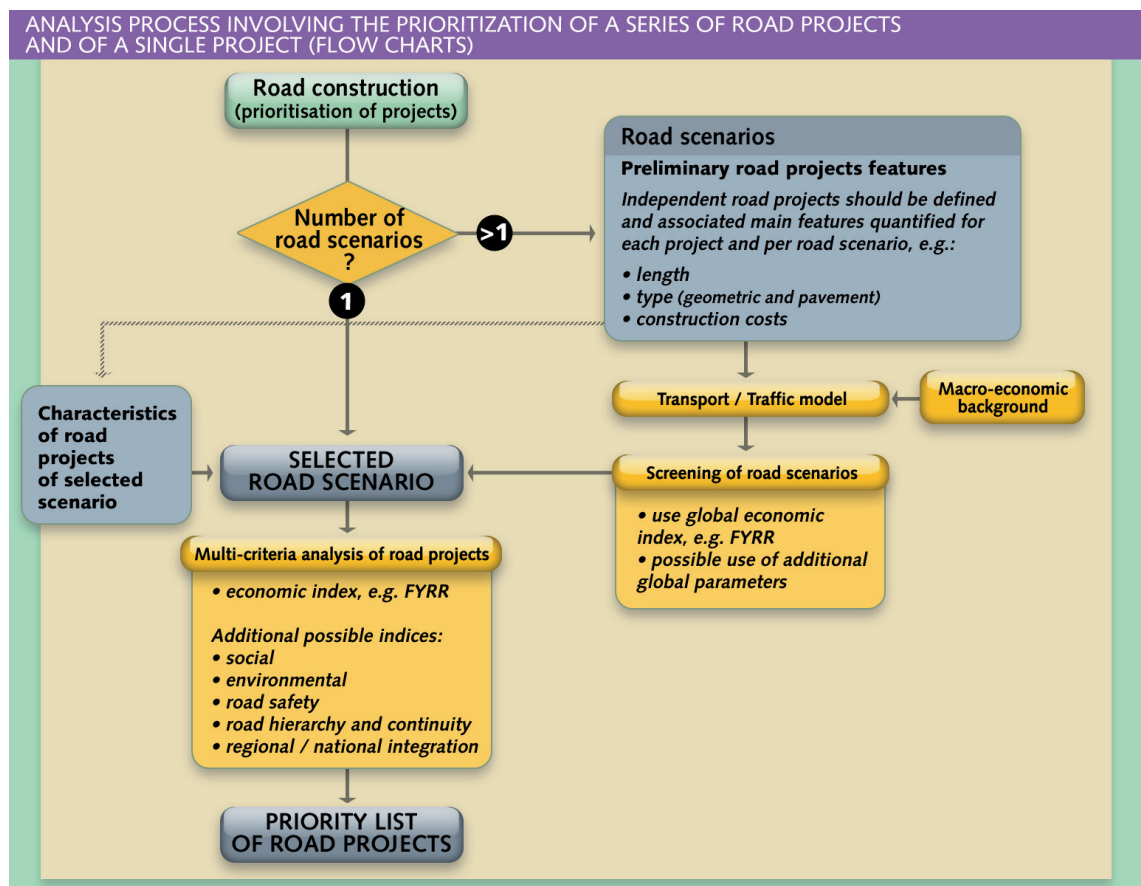
Multi-Criteria Analysis in the PPP Context

Multi criteria analysis is a project screening and ranking procedure. It is a procedure that is used worldwide in many contexts and not only for PPP. In the PPP project cycle it can be used at a number of decision points and by different parts of the PPP decision making system within government.

Through a relatively simple procedure, criteria are established to evaluate each potential PPP project.

These criteria require a mix of objective and subjective data. Through the scoring of criteria and then the summing of scores, projects can be ranked. This process is only able to broadly compare and rank projects and does not provide an absolute result. This is provided in the pre and full feasibility stages.

The government or authority usually has the problem of many projects in its public sector program, limited funding (and for detailed studies) and limited institutional capacity, and therefore there is the need to prioritize projects which multi criteria analysis addresses.



Multi-criteria analysis (MCA)

The main advantage of MCA method is to enable to rank projects on the basis of a multitude of criteria, which may or may not be expressed in monetary terms and that would otherwise not have a common denominator to enable a straight comparison between them on a similar scale. Although the economic indicator (resulting from a cost-benefit analysis) should still have a prominent role in the analysis, its is not the only parameter determining the ranking of the various road projects.

The most common technique involves the calculation of individual scores by criterion, the application of weight coefficients to each criterion and the summing up of the various components to a single score by road project. The method may also be presented in matrix format.

$$S_j = \sum_{i=1}^n W_i C_{ij}$$

where:

S_j = total score for project «j»

C_{ij} = score of criterion «i» for project «j»

W_i = weight of criterion «j»

Project j	1	2	3	...	j
Criterion i					
1	$W_1 C_{11}$	$W_1 C_{12}$	$W_1 C_{13}$	...	$W_1 C_{1j}$
2	$W_2 C_{21}$	$W_2 C_{22}$	$W_2 C_{23}$	...	$W_2 C_{2j}$
3	$W_3 C_{31}$	$W_3 C_{32}$	$W_3 C_{33}$	...	$W_3 C_{3j}$
4	$W_4 C_{41}$	$W_4 C_{42}$	$W_4 C_{43}$	...	$W_4 C_{4j}$
5	$W_5 C_{51}$	$W_5 C_{52}$	$W_5 C_{53}$	...	$W_5 C_{5j}$
...
...
n	$W_n C_{n1}$	$W_n C_{n2}$	$W_n C_{n3}$	...	$W_n C_{nj}$
Project score S_j	S_1	S_2	S_3	...	S_j

Details on multi-criteria analysis methods may be found in the appropriate technical literature.

-Criteria for PPP Project Selection

The proposed list of projects for screening must be provided with accompanying information and data. At the time investment programs are developed some information must already be available (e.g. economic, traffic and cost data) and can be used for very preliminary screening.

The information required and available will be a mix of hard and soft data.

Criteria should also conform to the national development plan goals, often prepared by the national Planning Ministry. For example, some national development plans emphasize:

- Accelerating investment and exports
- Increasing human capital investment (to support training and new job opportunities)
- Protecting the environment and improving the management of natural resources
- Promoting the private sector to meet the demands for more infrastructure.

These objectives can be incorporated in a list of criteria which reflect these national objectives and ultimately indicate the likelihood of each project succeeding as a private sector investment under PPP.

When a Ministry applies its own multi criteria analysis, it is likely it would use the same set of criteria for each set of projects.

The objectives included here in the Toolkit are relevant to highway contracting agencies.

In the following example, 12 criteria are shown. This is probably about the maximum and is shown for completeness. Some are not mutually exclusive. Possibly a minimum number would be about 6 key criteria which are shown underlined.

For each project, a minimum of data is required for each criterion. However, the weights used may be different to those used by the other ministries and the Highway Agency/contracting authority. In practice, each level of government/line ministry/authority may decide to include other criteria and drop some of the above.

The suggested criteria comprise, among others:

- ① Likely Financial Viability and Fiscal Support: (E.g. use of an objective simple financial model in the Toolkit or subjectively e.g. high traffic inter urban toll road etc.)
- ② Readiness and Risk: Overall Summary Risk Assessment and 'Readiness'
- ③ Socio Economic Benefits: Social and economic benefits (EIRR if available from studies, or brief description of social and economic rationale and benefits). Includes employment, and poverty alleviation.
- ④ Regional Development:/Contribution to GDP and Regional Impact (Projects in low GRDP/capita regions) plus expressed local need/support.
- ⑤ Sector Network Role Importance in Sector Plan: Role in sector strategy.
- ⑥ National Integration and Security: Whether project assists national integration and security.
- ⑦ Land Acquisition: Extent of Land Acquired (if not known, assume none).
- ⑧ Environment/Resettlement: Environmental and resettlement issues (by area or numbers affected/brief subjective assessment).
- ⑨ Impact on Export Earnings: Export Earnings Focused project (including related to visible exports e.g. whether international port and airport and to invisible exports e.g. a trade promotion center or tourism development area).
- ①⑩ Safety: Specific safety objectives e.g. high accident road improvement.
- ①① Project Type/Cost: Project Description (relatively brief, including approximate project cost) and whether a 'new build' project.
- ①② Demand: Trends, Volume and the demand/capacity ratio (% per annum, volume, if possible for the past 5-10 years and demand capacity ratio).

Note: Value for Money could be a criterion although at an early stage the above criteria already reflect likely value for money.

The team, having agreed on the criteria, undertakes the prioritization process which requires that all projects are passed through the multi criteria analysis. The following

tables show the twelve suggested criteria (above), guidelines for scoring each criterion and an indicative application of the methodology.



http://www.unescap.org/drpad/vc/orientation/M5_10.htm

It should be noted that the number of criteria is quite large but that at each level of application not all will be used. That is, national criteria for project selection among a list of proposed power, transport, water and other infrastructure would be different and have different weightings from the sub-sector ranking of a list of highways projects for example.

While the multi criteria analysis has been proved to be an extremely useful tool, and is robust it should be applied consistently at each level. It should also be noted that some criteria double count, to some extent, but at this level this is not considered a defect. Again, some criteria may not be internally consistent. However, not all criteria need be evaluated and weighting of criteria helps prioritize key policy considerations.

Criteria can either be unweighted or weighted.

Weighting can be determined subjectively or by a more systematic and mathematical process such as AHP (Analytical Hierarchy Process). While AHP can be used, it is considered more important that the government authority actively participates in the process of prioritization, which the somewhat complex AHP system may deter.

If some criteria are considered to be more important than others, they should be weighted accordingly. The overall weighting must be the average. The example table in the template indicates that a weighting of less than 10 means that a criterion is valued less than the average, a weight of 10 is at the average and a weight of more than 10 is valued at above the average. This is, of course, subjective.

The Multi Criteria Process

In order to minimize individual bias, this process is done by a team and the results averaged. Likewise, weightings should be prepared by individuals in the team and averaged. The process consists of;

- Select the criteria (at first unweighted).
- Subjectively assess the score for each criterion in words e.g. high, low, medium etc. with the maximum score for each criterion being 10 and a score must be attached to each criterion. This is done for each criterion and summed to give a total score for each project which can then be compared and ranked.
- If thought necessary, some criteria can be weighted to reflect greater importance and for PPP projects, financial viability and risk should be weighted more highly than others. The original scores still stand but are now weighted and the projects re-ranked (weighting may or may not change the rankings substantially).

- Consider alternative scenarios such as a regional emphasis or a social/poverty emphasis or maximizing economic growth.
- The next task is to complete the information required.
- Scores are then summed to obtain a total score per project, per scenario and unweighted and weighted.
- Projects are then ranked by weighted and unweighted.
- As indicated above, to avoid too much presumption of exactness, ranked projects can be divided into 3 main groups i.e. high, medium and low potential and all projects within a group treated the same until more data is available.

Although the system has flexibility, the rules of application should be decided in advance and it should not be continuously reapplied until a pre-desired or 'politically right' prioritization / ranking of projects emerges.



Evaluating Socio Economic Development, Sourcebook: Methods & Techniques Multicriteria Analysis
www.evaled.info

The criteria and weightings could be developed for different stages and different institutions in the PPP process and criteria and weightings could be different depending on the remit of the authority involved e.g. Planning Ministry, Ministry of Finance, and Line Ministry/Highway Authority or PPP cell.



Prospects And Approaches To Public Private Partnership In Transport Infrastructure
 B.B. Deoja, R.P. Adhikari, And B.R.Pande. Economic Policy Network, Policy Paper 7.
 2005. Annex 7 and 8. (Shows example of simple but real worked example)

Worked Example of Multi-Criteria Analysis

The main section of the Toolkit showed the methodology and suggested criteria. The following shows a worked example and templates.

The PPP 'team', having agreed on the criteria, undertakes the prioritization process which requires that all projects are passed through a multi criteria analysis.

The following table shows the twelve suggested criteria (above) and guidelines for scoring each criterion. The subsequent table (Example of Weighting of Criteria) shows an indicative application of the methodology.



http://www.unescap.org/drpad/vc/orientation/M5_10.htm

SUGGESTED GUIDELINES FOR COMPLETION OF THE MULTI CRITERIA MATRIX				
	Criteria/Assessment Max. Score = 10, Min.= 0.	Higher Score Score: 10 to 8	Moderate Score Score: 7 to 4	Lower Score Score: 3 to 0
1	Financial Feasibility / Fiscal Support	Likely Viable: >20%; and No fiscal support	Likely Viable: >20%; and No fiscal support	Not viable <14%; High fiscal support
2	Readiness and Risk	Few major issues/risks and Project 'Ready'	Identified risks but largely can be mitigat- ed and can be made 'Ready'	Many risks, few can be mitigated suf- ficiently and project not ready
3	Economically Feasible Socio Economic Ben- efits (including em- ployment and poverty alleviation)	EIRR>15%; Major Macro Impact	12%-15% EIRR; Moderate Macro Im- pact	EIRR<12%; Minor Macro Impact
4	Regional development / National Integration Contribution to GDP	Impact on Low GRDP provinces and/or High Poverty alleviation focus	Impact on Low-Me- dium GRDP provinces and/or medium pov- erty alleviation focus	Impact on High GRDP provinces and/or Low Poverty alleviation focus
5	Sector Network Role Importance in Sector Plan	Forms integral part and already included	Part of Sector Plan	Ad hoc project- but not in conflict with sector plan
6	National Security/National Integration	Strengthens National security/integration	Medium Impact	Low Impact
7	Land Acquisition	All/Most Land Acquired (Say over 80%)	Some land Acquired (25%-80%)	None or little land acquired (<25%)
8	a. Likely Environmen- tal Impacts b. Involun- tary Resettlement	Few Issues; a. Low impact b. Few affected	Some Issues; a. Mid impact b. Mid affected	Many Issues; a. Severe impact b. Many affected
9	Impact on Export Earnings	Major overseas trade and/or tourism impact:	Limited o'seas trade or tourism impact	Little o'seas Trade or tourism impact
10	Safety	High Safety Focus	Moderate Safety Focus	Low Safety Focus
11	Project Cost	>USD 100m.	USD 100m-USD 50m	<USD 50m
12	Demand Growth % / Traffic Volume or the Demand / Capacity Ratio	a. >15% pa b. >20,000 vpd c. >1.2	a. 15%-5% pa b. 10-20,000 vpd. c. 1.2-0.8	a. <5% pa b. <10,000 vpd c. <0.8

Source: Consultants

Criteria can be unweighted or weighted. Unweighted criteria are initially assumed to have the same importance. If some criteria are considered to be more important than others, they should be weighted accordingly.

EXAMPLE OF WEIGHTING OF CRITERIA	
CRITERIA	WEIGHTING* Average Per Criterion=10.0)
Financial Feasibility/Fiscal Support	15
Readiness and Risk	15
Socio Economic Benefits (including employment and poverty alleviation)	10
Regional development / National Integration Contribution to GDP	10
Sector Network Role Importance in Sector Plan	12
National Security	0
Land Acquisition	11
Environment/Resettlement	11
Impact on Export Earnings	10
Safety	11
Project Type/Cost	5
Demand / Capacity/Demand	10
Average Weighting (Total Divided by 12)	10

* Note: The overall weighting must be 10 or the average. The above table indicates that a weighting of less than 10 means that a criterion is valued less than the average, a weight of 10 is at the average and a weight of more than 10 is valued at above the average. This is subjective.

In order to minimize individual bias, this process is done by a team and the results averaged.



Evaluating Socio Economic Development, Sourcebook 2: Methods & Techniques Multicriteria Analysis
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The following table shows two projects. Project #1 achieves an unweighted score of 80 compared to project#2 which achieves 72. However, by weighting key criteria (that is criteria for a successful PPP project) such as financial viability, demand etc. the weighted scores are 77.1 and 82.6. This results in a reversal of ranking.

WORKED TEMPLATE EXAMPLE OF A MULTI CRITERIA ANALYSIS									
NO.	CRITERIA	PROJECT # 1				PROJECT # 2			
		SCORE IN WORDS	SCORE	WEIGHT	SCORE X WEIGHT/10	SCORE IN WORDS	SCORE	WEIGHT	SCORE X WEIGHT/10
1	Financial Feasibility/Fiscal Support	Mid	5	15	7.5	High	9	15	13.5
2	Readiness and Risk	Mid-High	7	15	10.5	Mid-High	8	15	12.0

3	Socio Economic Benefits (including employment and poverty alleviation)	High	9	10	9.0	High	9	10	9.0
4	Regional development / National Integration Contribution to GDP	Mid-High	7	10	7.0	Mid-High	7	10	7.0
5	Sector Network Role Importance in Sector Plan	High	8	12	9.6	Mid-High	8	12	9.6
6	National Security	High	9	0	0.0	Low	0	0	0.0
7	Land Acquisition	Med	5	11	5.5	Mid	5	11	5.5
8	Environment/Resettlement	Med	5	11	5.5	Mid	5	11	5.5
9	Impact on Export Earnings	Med	5	10	5.0	Mid	5	10	5.0
10	Safety	Mid	5	11	5.5	Mid	5	11	5.5
11	Project Type/Cost	Mid	6	5	3.0	Low	2	5	1.0
12	Demand / Capacity/Demand	High	9	10	9.0	High	9	10	9.0
Total Score (Out of 100)			80	10	77.1		72	10	82.6

Source: Draft Operational Guidelines Manual 2006, Coordinating Ministry of Economic Affairs, Indonesia, Private Provision of Infrastructure Technical Assistance.