



# How to maintain Value for Money: Experience from Korean PPPs

Public and Private Infrastructure  
Investment Management Center

# Measures to maintain Value for Money

## ■ **Monitoring and Evaluation**

- Various measures to monitor and evaluate PPP projects: VfM test, Infracore DB system, Performance Evaluation

## ■ **Ex-post Management**

- Ex-post VfM test, Capacity Building Activity, Dispute Resolution Committee

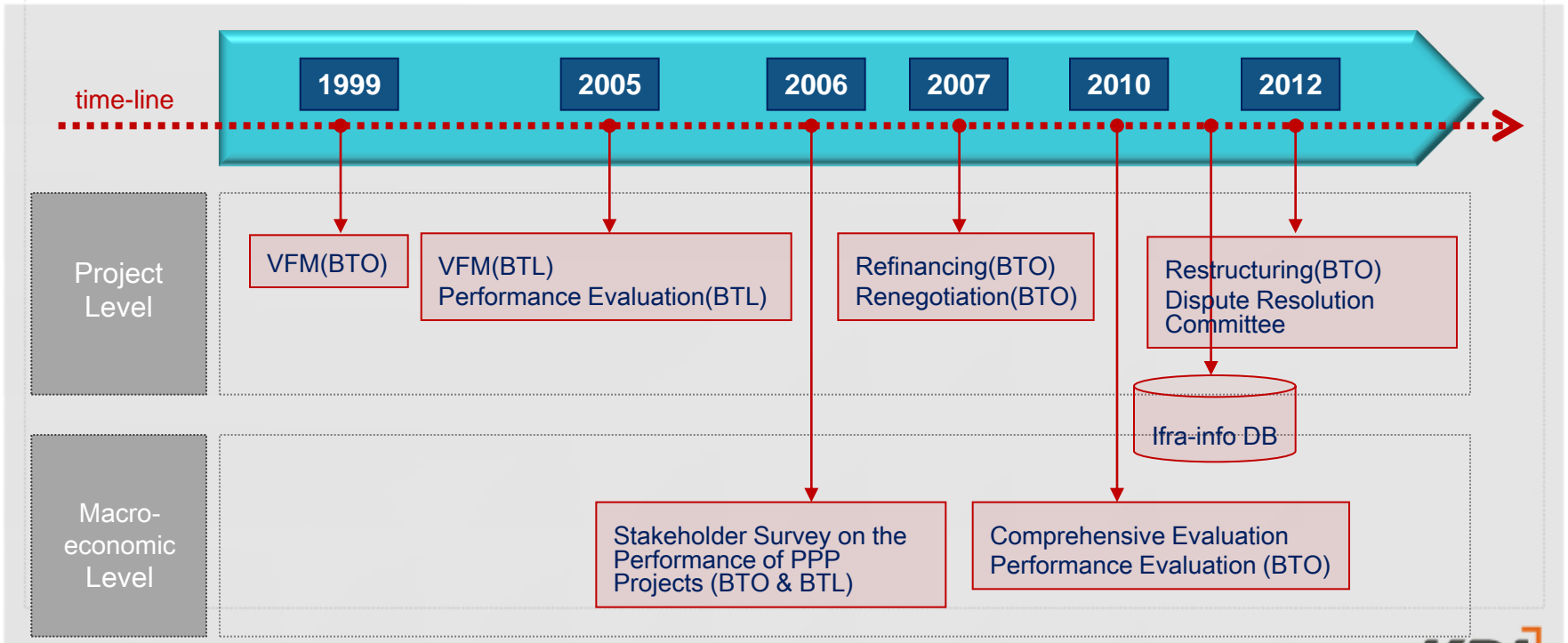
## ■ **Concession Agreement Change**

- Renegotiation or Refinancing with maintaining or even enhancing Value for Money

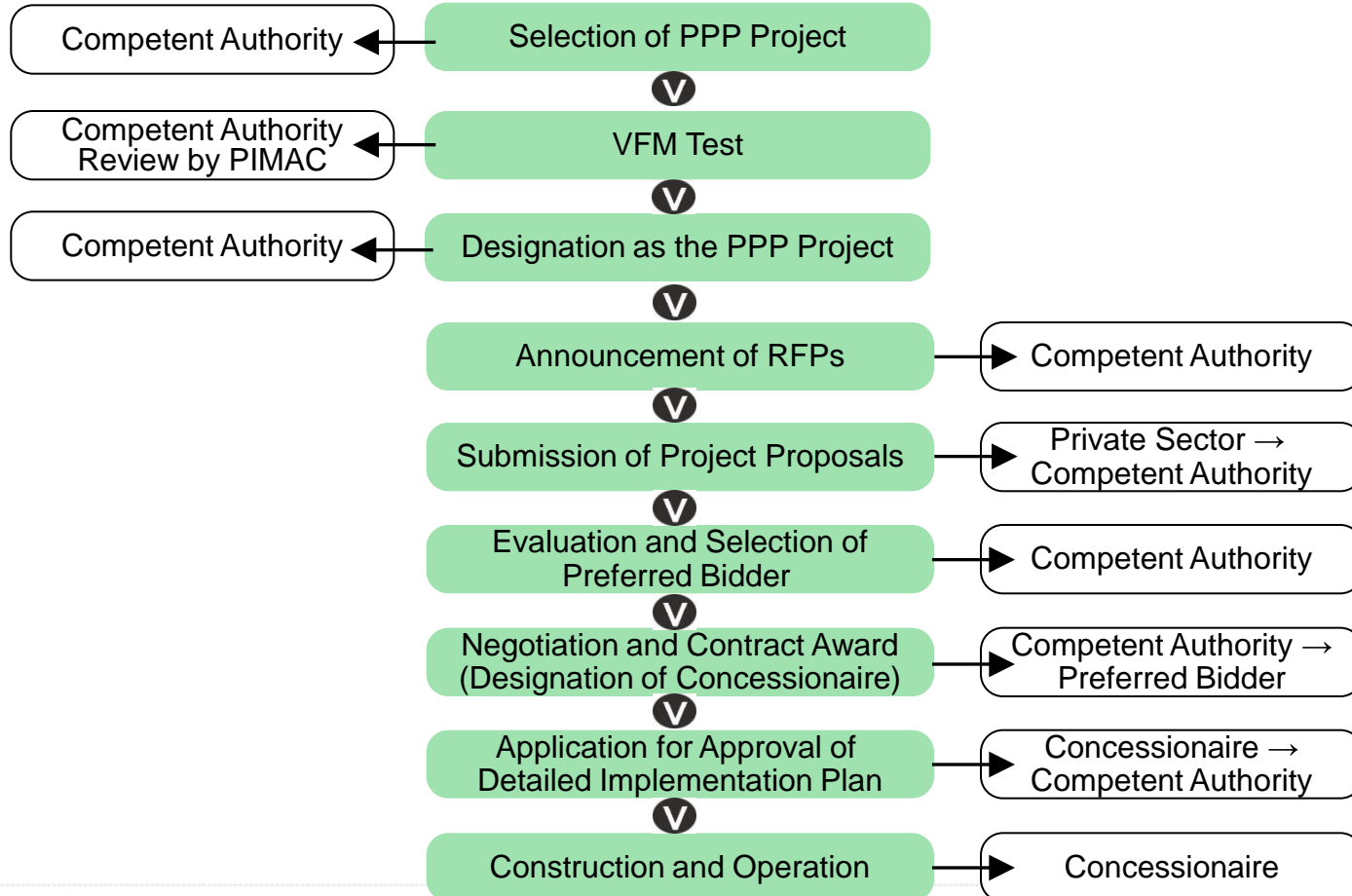
# Evolution of PPP monitoring and evaluation in Korea

## ■ Historical Overview

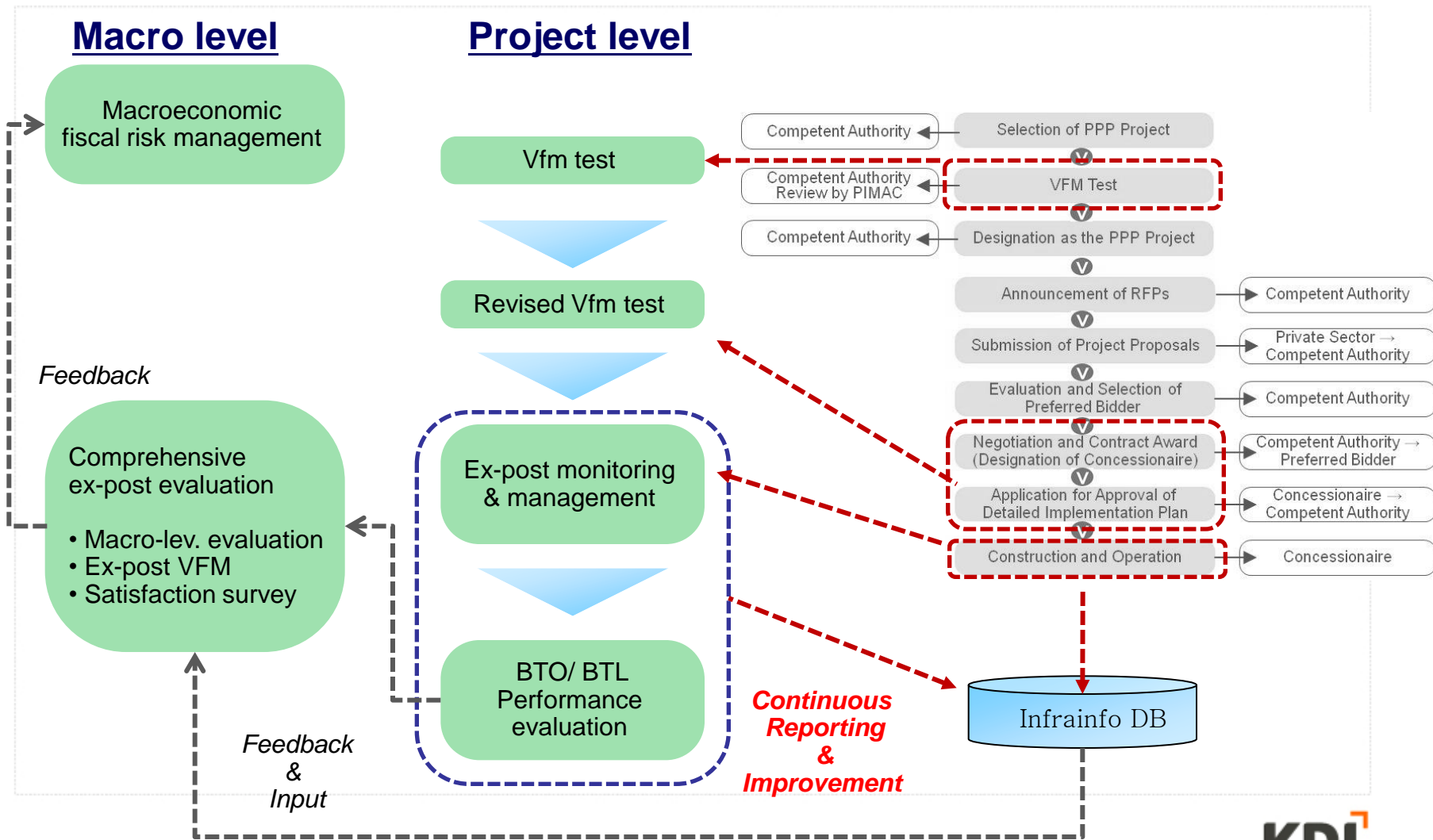
- Evaluation and feedback systems (in strict meaning) was adopted since 2005.
- After assessment data was accumulated at project level, comprehensive evaluation and macroeconomic effect evaluation system were introduced in 2010.



# Process of Solicited PPP Projects



# Monitoring & Evaluation by process



# VFM Test

## ■ Phase 1: Feasibility study (Decision to Invest)

- The cost- benefit analysis is conducted to determine feasibility of the project from a national economy perspective.

## ■ Phase 2: Value for Money Assessment (Decision on PFI)

- The government payment of PSC (Public Sector Comparator) is compared against that of PFI (Private Finance Initiative) to decide whether the PFI achieves VfM.

## ■ Phase 3: Formulation of PFI alternatives

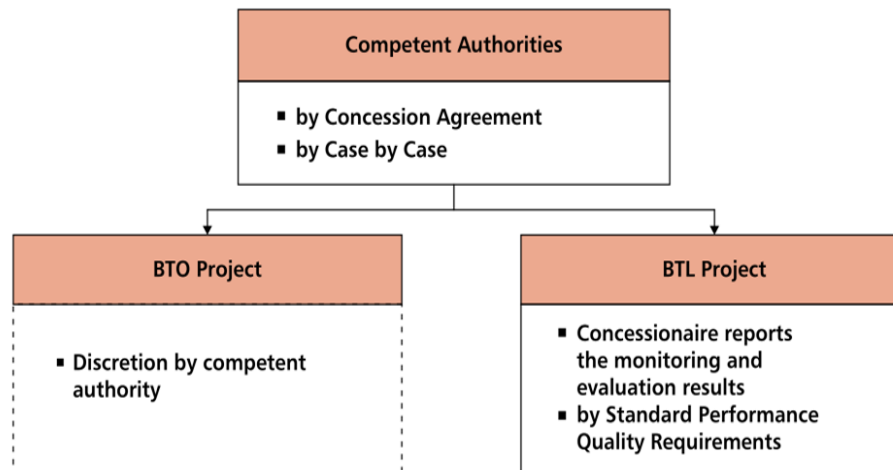
- Based on the results of phase 2, an appropriate PFI alternatives are formulated
- The level of project cost, user fee, subsidy scale, etc. are suggested from the government.
- Bonus points (10% **Phase 4: Award bonus points to the initial proponent** max.) awarded to the initial proponent are estimated based on the results of VfM tests and the quality of the proposal.

# BTL Performance evaluation

## ■ Performance Management

- The purpose of the performance management is to check and assess whether operation and maintenance services are in accordance with the concession agreement and output specification.

### Performance Management by Project Types



BTL = build-transfer-lease, BTO = build-transfer-operate.

Source: Ministry of Strategy and Finance. 2009. Basic Plan for Private Participation in Infrastructure. Seoul.

- Performance management is more strict for a BTL project than a BTO project since the satisfaction survey and performance evaluation results are reflected in government payment to the project company for BTL projects.

# BTL Performance evaluation

## ■ Performance Evaluation

- For fair performance evaluation, the competent authority must form a performance evaluation committee consisting of government officials, the project company (SPC or operator), and experts of the relevant field.
- The project company should be allowed to first submit a self-evaluation report, which is reviewed by the competent authority.
- The performance evaluation committee can decide whether to conduct an additional independent evaluation by a third party.

## Performance Check List

Category	Performance Measuring and Reporting	Performance Check
Time	<ul style="list-style-type: none"> <li>Once every month (monthly business report): within first 10 days of following month</li> </ul>	<ul style="list-style-type: none"> <li>Regular check: within 7 days after receiving monthly report</li> <li>Random check: at random times</li> </ul>
Body	<ul style="list-style-type: none"> <li>Project company</li> </ul>	<ul style="list-style-type: none"> <li>Competent authority</li> </ul>
Document	<ul style="list-style-type: none"> <li>Standard Performance Quality Requirement</li> <li>Operation and Maintenance Plan</li> </ul>	<ul style="list-style-type: none"> <li>Standard Performance Quality Requirement</li> <li>Operation and Maintenance Plan</li> <li>Performance Measurement Report (monthly report)</li> </ul>
Scope	<ul style="list-style-type: none"> <li>The level of operation and maintenance provided by operator</li> </ul>	<ul style="list-style-type: none"> <li>Whether provided operation and maintenance level satisfies requirement</li> </ul>
Method	<ul style="list-style-type: none"> <li>Self-measurement</li> <li>Prepare report of measurement results</li> </ul>	<ul style="list-style-type: none"> <li>Check documents and facts supporting report</li> <li>Visit facility, supervise work</li> <li>Demand for data and/or explanation, on-site (demand financial status report if necessary)</li> </ul>
Additional measures when necessary	<ul style="list-style-type: none"> <li>Check measurement devices</li> <li>Sampling test</li> <li>Customer satisfaction survey</li> </ul>	<ul style="list-style-type: none"> <li>Check measurement device</li> <li>Sampling</li> <li>Unannounced on-site check</li> <li>Receive complaints from users</li> <li>Customer satisfaction survey</li> </ul>
Output and follow-up	<ul style="list-style-type: none"> <li>Performance Report (monthly report)</li> <li>Self-correction if necessary</li> </ul>	<ul style="list-style-type: none"> <li>Performance Confirmation Result</li> <li>Corrective order if performance fails to be requirement</li> <li>Contract termination if failure continues</li> </ul>

Source: PIMAC, KDI. 2006. September. *Guidelines for Formulation of Request for Proposals for BTL Projects*. Seoul.



# BTL Performance evaluation

## ■ User Satisfaction Survey

- The satisfaction survey is conducted by each project company and submitted to the competent authorities.
- It is taken monthly or quarterly as specified in the standard performance quality requirement.
- Each evaluation item is given an evaluation grade(e.g., grade A-D) and then a score according to the grade. Weights are given to evaluation items to calculate final evaluation result.

## Evaluation Criteria

Grade		Evaluation Criteria	Weight
Grade	Score		
A	10	If 100% of respondents say service is "very satisfactory"	0.3 (example)
B	9	If 80% or more of respondents say service is "very satisfactory" and 20% or less say "satisfactory"	
C	8	If 50% or more of respondents say service is "very satisfactory" and 20% or more say "satisfactory"	
D	7	If 50% or more of respondents say service is "unsatisfactory"	

Total Score	Grade	Score	Incentive and Penalty	Evaluation Item
		A	9 +	100% of service payment.
B		8 +	○○% of service payment. If following quarter's total grade is A, ○% of previous quarter's deduction is added.	
C		7 +	○○% of service payment. If following quarter's total grade is A, ○% of previous quarter's deduction is added.	
D		Less than 7	Suspend payment of service payment. If following quarter's total evaluation grade is A, ○% of previous quarter's deduction is added.	

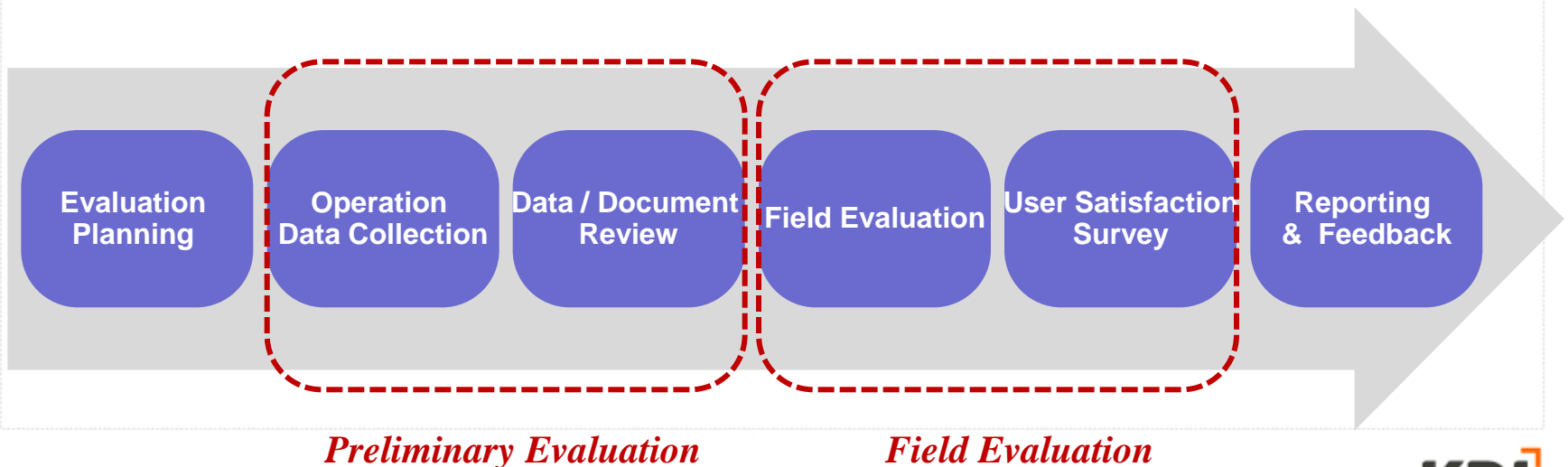
Source: PIMAC, KDI. 2006. September. *Guidelines for Formulation of Request for Proposals for BTL Projects*. Seoul.

# BTO Performance evaluation

## ■ Issues in BTO facilities

- Acceptable service quality
- Operational and cost efficiency
- Cooperation between competent authority and private investor

## ■ Evaluation procedure



# BTO Performance evaluation

## ■ Evaluation Criteria

- Degree of User Satisfaction : Safety, Customer Service, Kindness, etc.
- Cooperation with Competent Authority : Feedback and Improvement, Timely Reporting, VMS information support
- Cost and Operational Efficiency : Operation Cost Management, Organization Management, Public Relationship

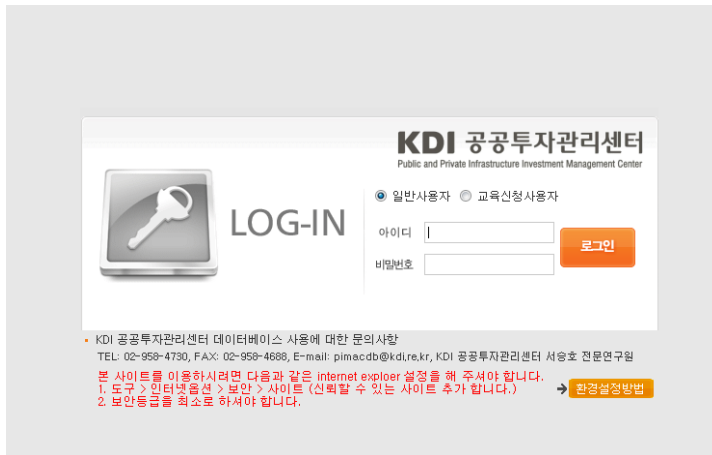


**Cooperation Between Competent Authority and Project Company**

# Infrainfo DB system

## Development of DB system

- The integrated DB system is essential for monitoring and evaluation.
- Without the integrated DB system, the PPP data was managed by each procuring authorities or municipal governments.
- PIMAC began to develop integrated data base system (Infrainfo DB system) in 2011, and initiated the system in 2012.

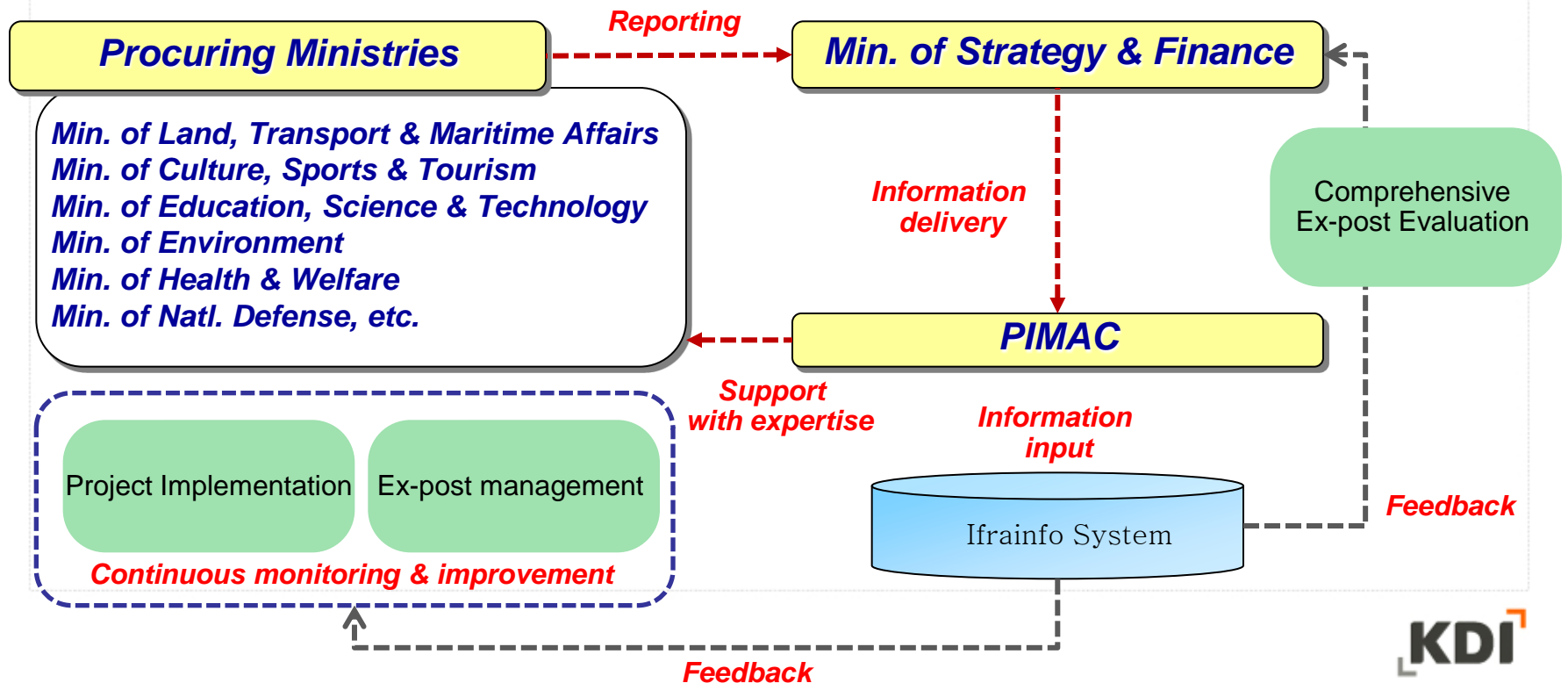


주최주체	추진단계	사업명	담당부서	시공방법	조달방식	조달방법	총사업액
6	국기관	고시용	국기관	국기관	국기관	국기관	1,417,050
3	국기관	고시용	국기관	국기관	국기관	국기관	1,209,707
4	국기관	고시용	국기관	국기관	국기관	국기관	1,209,717
5	국기관	고시용	국기관	국기관	국기관	국기관	617,257
6	국기관	공영형	국기관	국기관	국기관	국기관	14,991
7	국기관	고시용	국기관	국기관	국기관	국기관	12,100
8	국기관	고시용	국기관	국기관	국기관	국기관	89,612
9	국기관	고시용	국기관	국기관	국기관	국기관	79,861
10	국기관	공영형	국기관	국기관	국기관	국기관	89,563
11	국기관	고시용	국기관	국기관	국기관	국기관	91,050
12	국기관	공영형	국기관	국기관	국기관	국기관	95,329
13	국기관	고시용	국기관	국기관	국기관	국기관	81,013
14	국기관	계획승인	국기관	국기관	국기관	국기관	87,517
15	국기관	계획승인	국기관	국기관	국기관	국기관	47,374
16	국기관	계획승인	국기관	국기관	국기관	국기관	43,980
17	국기관	고시용	국기관	국기관	국기관	국기관	110,914
18	국기관	계획승인	국기관	국기관	국기관	국기관	80,630
19	국기관	고시용	국기관	국기관	국기관	국기관	84,321
20	국기관	고시용	국기관	국기관	국기관	국기관	73,042
21	국기관	계획승인	국기관	국기관	국기관	국기관	113,888
22	국기관	계획승인	국기관	국기관	국기관	국기관	68,136
23	국기관	계획승인	국기관	국기관	국기관	국기관	46,452
24	국기관	고시용	국기관	국기관	국기관	국기관	86,240
25	국기관	계획승인	국기관	국기관	국기관	국기관	33,546
26	국기관	고시용	국기관	국기관	국기관	국기관	99,193
27	국기관	계획승인	국기관	국기관	국기관	국기관	83,174

# Infrainfo DB system

## ■ DB system support

- In the line of continuous monitoring process, all the status changes of PPP projects should be reported to Ministry of Finance and the information be delivered to information center for updates to system (Infrainfo System).



# Comprehensive Ex-post evaluation

## ; Ex-post VFM Test

### ■ Ex-post VFM Test (BTO projects)

- Among the projects implemented after conduction VFM tests, the calculation of the Ex-post VFM shows that the projects have had the effect of reducing fiscal burdens.

#### Realized VFM Increase in BTO using Ex-post VFM Test (%)

Project Name	VFM (ex-ante)	VFM (ex-post)	Difference
Mungyeong Daily Waste Incinerating Facility	13.00	14.84	1.84
Pocheon Resource Recovery Facilities	5.52	26.15	20.63
Ulsan Wastewater Treatment Facilities	3.40	10.44	7.04
Ulsan Resource Treatment Facilities	9.87	17.96	8.09
Ulsan Gulhwa Gangdong Wastewater Treatment Facilities	-1.64	1.09	2.73
Pohang Jangryang Wastewater Treatment Facilities	-3.58	19.84	23.41
Changwon-Busan Road	48.30	45.73	-2.57
Inje Auto Theme Park	41.62	50.51	8.89
Gimpo Sewage Pipes	3.26	30.79	27.53
Seosuwon-Uiwang Road	57.48	96.39	38.91
Yangju (Doha-Deokgye) Road	13.02	17.28	4.26
Total	4.44	20.76	16.32

- In the case of 11 BTO projects, the difference between the ex-ante VFM and ex-post VFM figures shows an additional VFM increase of 16.32% (W 142.5 billion).

VFM = value for money.

Source: VFM test reports prepared by the Public and Private Infrastructure Investment Management Center.

# Comprehensive Ex-post evaluation

## ; Ex-post VFM Test

### ■ Ex-post VFM Test (BTL projects)

- To calculate the ex-post effect of the VFM on reducing the government's fiscal burden, the study conducted an ex-post VFM test on the PSC (Public Sector Comparator) and the payment the government was supposed to make to each project according to its concession agreement.

#### Realized VFM Increase in BTL using Ex-post VFM Test (%)

Project	PSC	PFI-1 (ex-ante)	PFI-2 (ex-post)	VFM (ex-ante) <sup>a</sup>		VFM (ex-post) <sup>b</sup>		(ex-post)- (ex-ante)	
				Amount	Ratio (%)	Amount	Ratio (%)	Amount	Ratio (%)
Military residential facilities	18.2	17.2	15.9	1.0	5.5	2.3	12.0	1.3	7.0
School facilities	498.9	483.7	496.7	15.1	3.0	2.2	0.0	(13.0)	-3.0
Sewage pipes	1,020.9	947.4	855.3	73.5	7.2	165.6	16.0	92.1	9.0
Total	1,538.0	1,448.3	1,367.9	89.6	5.8	170.1	11.1	80.4	5.2

PFI = private finance initiative, PSC = public sector comparator, VFM = value for money.

<sup>a</sup> Assumed PFI is calculated from VFM test.

<sup>b</sup> Actual PFI is estimated based on government payment determined in concession agreement.

Source: VFM test reports prepared by the Public and Private Infrastructure Investment Management Center.

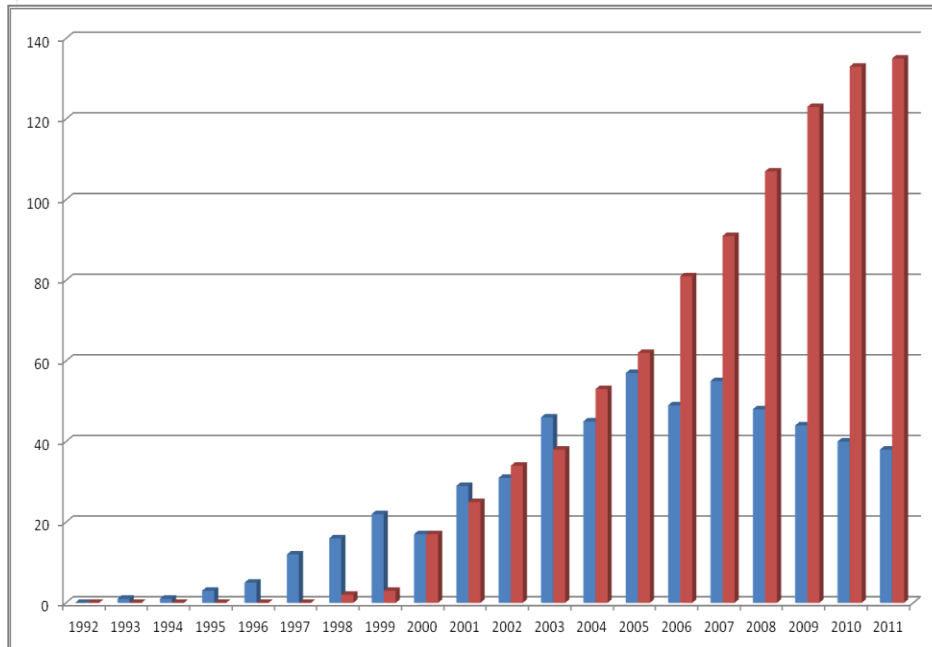
- In the case of 30 BTL projects, the difference between the ex-ante VFM and ex-post VFM figures shows an additional VFM increase of 5.2% (W 80.4 billion).

# Ex-post monitoring & management

■ **As operation of the PPP projects increases, it is an inevitable fact that disputes arise as well.**

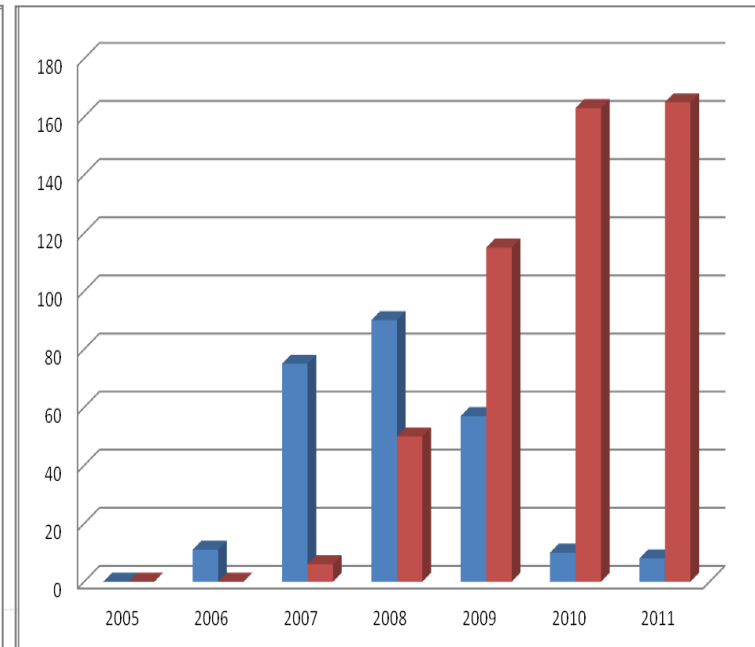
- Transactions become more complex
- Changes of business environment
- Changes of policy objectives

## Number of PPP Projects under Construction or in Operation



**BTO (1992~2011)**

■ under construction  
■ in operation



**BTL (2005~2011)**



# Ex-post monitoring & management

- **PIMAC is acting as an help desk for inquiry and consultancy ;**
  - Scope of Supporting Work : Reviews for request for proposals, concession agreement, financial model, refinancing, Q&A

## Number of Inquiries and Consultancy by PIMAC

	BTO	BTL	Q&A	Total
2007	20	69	45	134
2008	29	170	101	300
2009	35	180	118	333
2010	44	104	143	291

# Ex-post monitoring & management

## Preemptive efforts to monitor and reduce disputes

- **Building capacity of government officials through training and education to reduce occurrence of disputes**
  - Training provides sound knowledge of PPP rules and regulations, comprehensive and thorough understanding of standard. It improves communications with contractors, stakeholders/users.
- **Revise Standard Concession Agreement (“SCA”) to provide detailed guidelines for initial concession design. Fairness and transparency in PPP projects, leading to reduce the disputes, can be enhanced by developing SCA**
  - Weakness of concession agreement result from their deficient design
- **Create a formal PPP dispute resolution committee within the government to manage and assist operational PPP projects**
  - The Committee must be neutral, unbiased and independent.

# Ex-post monitoring & management

## Dispute resolution committee

- **A PPP Dispute Resolution Committee has been newly established under the Minister of Strategy and Finance as a means to resolve any dispute involving PPP projects.**
  - Newly created as Article 44 of the revised PPP Act (November 2011)
  - The Committee must be neutral, unbiased and independent in order to administer mediation, viable alternatives to transnational arbitration or litigation.
  - The Committee is composed of no more than nine members including one chairperson, of whom one or more shall represent: ① the government, ② the project company, ③ the public interest.
- **The Committee is to notify the other party if the resolution for dispute was requested by a single party (mediation).**
  - The notified party shall inform the Committee of its intention to accept or to refuse the request for dispute resolution.
  - However, in the case where the notified party is the state or the local government, then the party has no choice but to accept the request for dispute resolution.

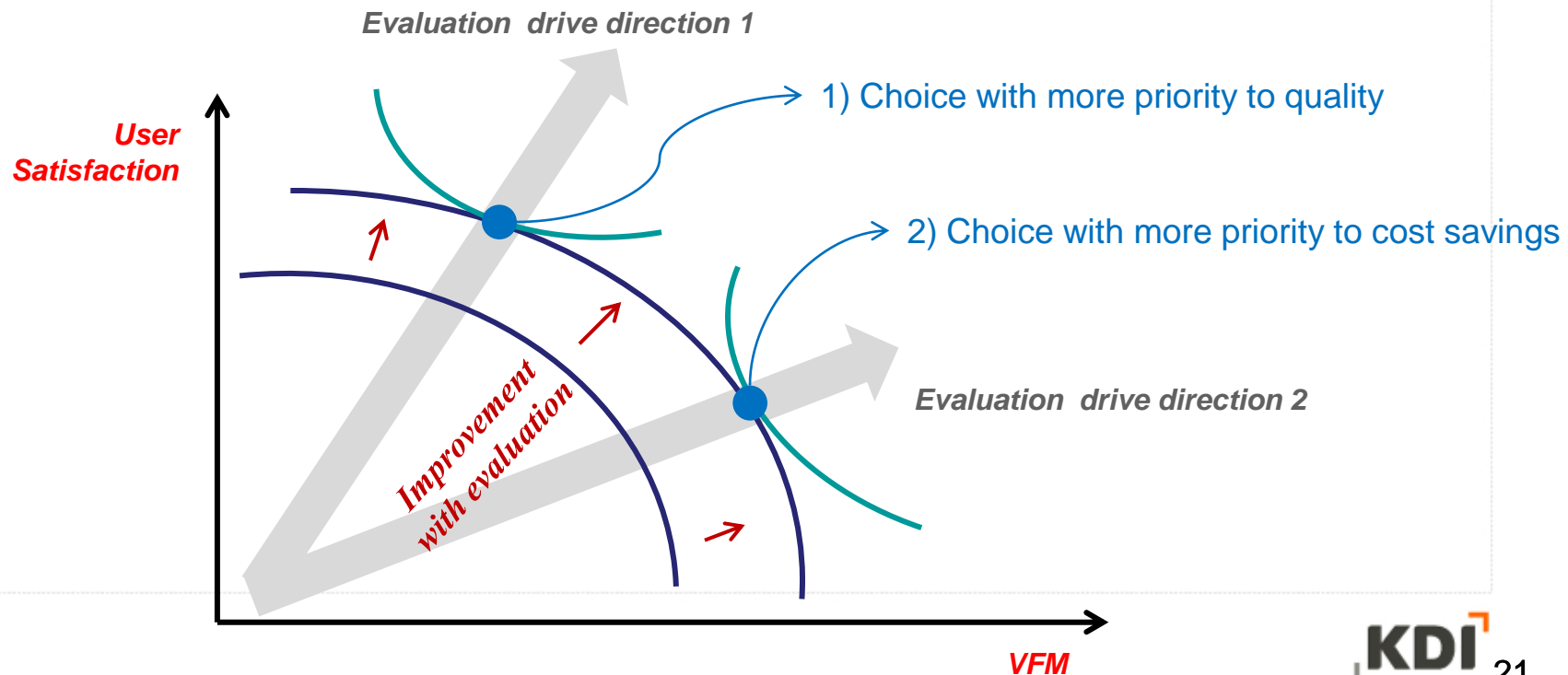
# Ex-post monitoring & management

## Dispute resolution committee

- **The Committee shall submit a written draft of mediation within 90 days from the date of request for dispute resolution. This may further extend up to 60 days.**
- **The parties shall notify the Committee the intention to accept the draft mediation within 15 days from the submission of the draft. If the parties consent to accept, the Committee shall immediately submit the written mediation report which shall be signed and sealed by the chairperson of the Committee and by both parties.**
- **The party that have requested for dispute resolution shall bear any cost incurred.**

# Lessons learned

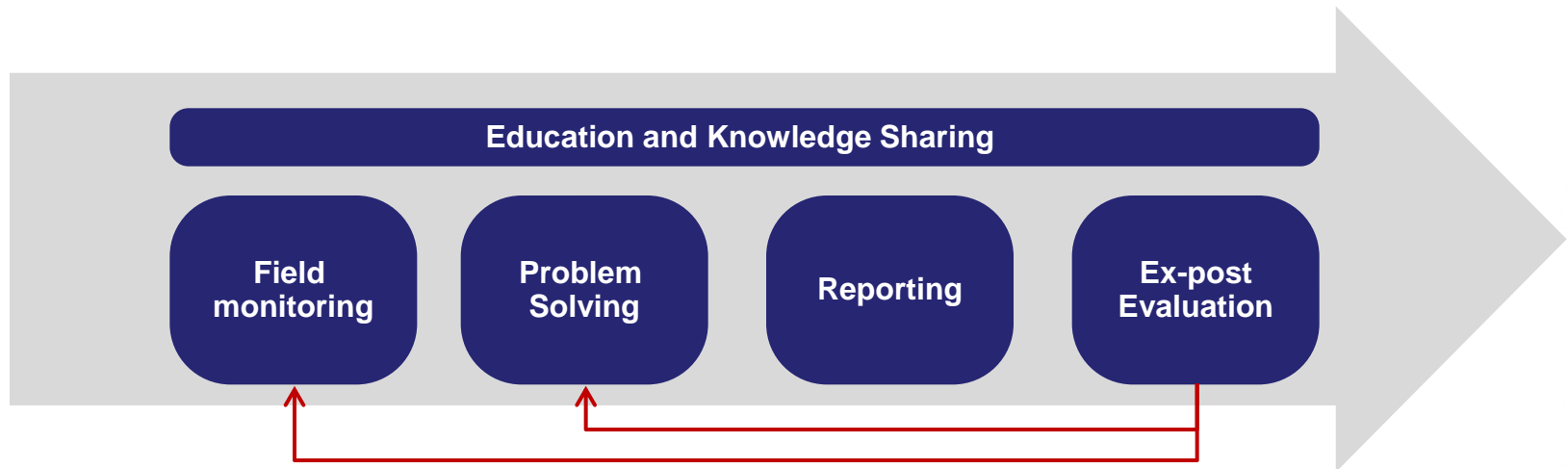
- **Trade-off attributes should be carefully considered to achieve the goal of development when designing evaluation and monitoring criteria**
  - The quality of facility can be represented by user satisfaction survey
  - The cost efficiency can be measured by ex-post VFM



# Lessons learned

## ■ Preventive efforts for continuous field monitoring and problem solving are by far more important than ex-post evaluation

- Continuous field monitoring system can help solving problem in a timely manner
- Every stakeholder should recognize themselves as project improver through monitoring and suggestion
- To achieve this goal, education is one of most critical factor for success

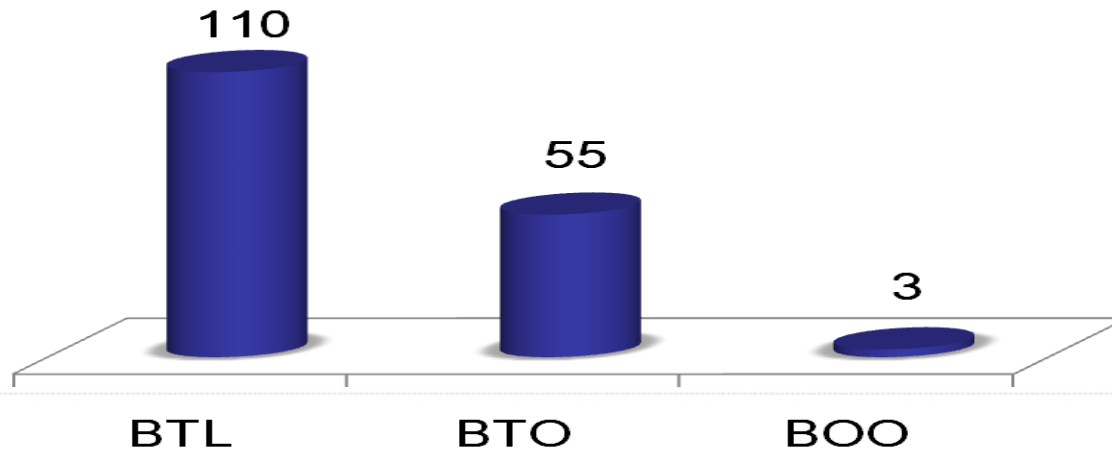


*Feedback with incentive or penalty*

# Concession Agreement Change

- Terms and conditions in the concession agreement can be adjusted when the PPP policy or project scope changes and parties meet to resolve the dispute.
- Among total of 168 PPP projects (currently under construction or in operation) 110 BTL projects, 55 BTO projects, and 3 BOO projects have undergone changes in the agreement.

Number of Projects with Changes after Being Awarded  
(according to implementation method)



# Concession Agreement Change

- Most of education projects initiate change in contract within 3 years of project period while most of road projects experience concession change later during the project period.

## Time of Concession Change

(Number of projects that have undergone concession change)

Facility type	Within 1 yr	1-2 yrs	2-3 yrs	3-4 yrs	4-5 yrs	More than 5 yrs	N/A
Education	3	70	41	5	2		2
Environment	2	2	13	7	9	11	1
Road		2	2	2	5	27	
Culture & Tourism		1	6		1	2	1
Port						4	
Defense		1		3	1	1	
Logistics					1	1	
Information communication	1						
Rail						1	

\* A project may make concession change more than once throughout the project period.



# Concession Agreement Change

- **PPP projects undergo concession change for various reasons throughout the project period.**
- **Main reasons for change of the concession agreement include:**
  - (1) Change in toll fee
  - (2) Change in total project cost
  - (3) Change in corporate tax
  - (4) Change incurred by alteration of the PPP Act
  - (5) Change in investor and refinancing
  - (6) Change concerning port labor union policy
  - (7) Recalculation of government payment (by adjusting to macroeconomic shocks)

## □ Sharing refinancing gain

- According to basic plan of PPP project
  - In principle Competent authority and SPC share refinancing gain half and half.
  - Without MRG, SPC can get 70% of refinancing gain  
Financial support during construction period

- Refinancing gain can be used for
  - Reduction of user fee,
  - Reduction of MRG
  - Shortening concession period
  - Receipt in cash
- At first competent authority consider reduction of user fee.
- In case reduction of user fee is improper, reduction in the level of minimum revenue guarantee will be considered.
- Main object is to maintain or to enhance Value for Money after Refinancing.