







Disclaimer

The information contained in this document, including any clarifications provided by the DOH or its consultants during the Market Sounding, is preliminarily intended to elicit private sector's feedback on the project. It shall not be deemed to establish any scope or conditions whatsoever related to the selection of the private partner.

The said information and clarifications may be subsequently amended or supplemented. The DOH offers no representations or warranties whatsoever, and accepts no liability for the completeness or accuracy of the aforementioned information and clarifications.



Presentation Topic



No.	Presentation Topic
1	Study Results and Project Principles
2	Project Implementation Plan
3	Key Provisions of the Draft Invitation to Bids, Draft RFP, and Draft PPP Contract
3.1	 Design and Construction Requirements Framework
3.2	 Operation and Maintenance Requirements Framework
3.3	 Draft PPP Contract
3.4	- Remuneration Payment and Financial Proposals Preparation
3.5	 Guidelines for PPP Proposals Submission





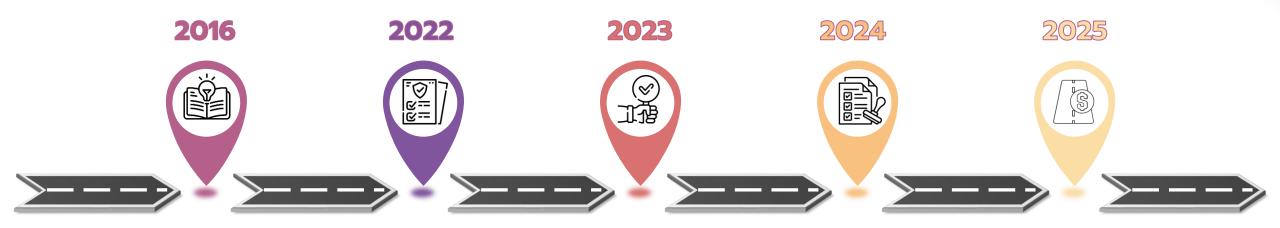


Study Results and Project Principles



Project Background





Completion of the economic and engineering feasibility study, environmental impact assessment, and detailed design

The National Environment Board (NEB) approved the EIA and project feasibility reports, in accordance with the Public-Private Partnership Act, B.E. 2562 (2019).

The PPP Policy Committee approved the project principles.

The Minister of Transport approved the project principles. The Cabinet approved the project implementation during its meeting on December 24, 2024.

Issuance of the Ministerial Regulation Prescribing Toll Rates for Vehicles on the Uttaraphimuk Elevated Tollway (M5), Anusornsathan – Bang Pa-In Section





Project Objectives





To alleviate traffic congestion on Phahonyothin and Vibhavadi Rangsit roads, and to support inter-regional travel among the Central, Northeast, and North.

To make the project an integral part of the intercity motorway network, facilitating a complete connection for travel from central Bangkok to the Northeast.

It integrates with the Bang Pa-in – Nakhon Ratchasima Motorway (M6) to serve the Northeast, and connects with National Highway No. 32, providing access to the Upper Central and Northern regions.

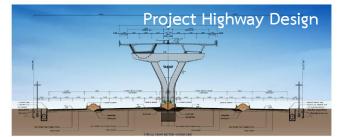
To enhance direct connectivity from the heart of Bangkok to the Northeast, ensuring smooth, convenient, fast, and safe travel. This will also bolster logistics activities and the national economy as a whole.

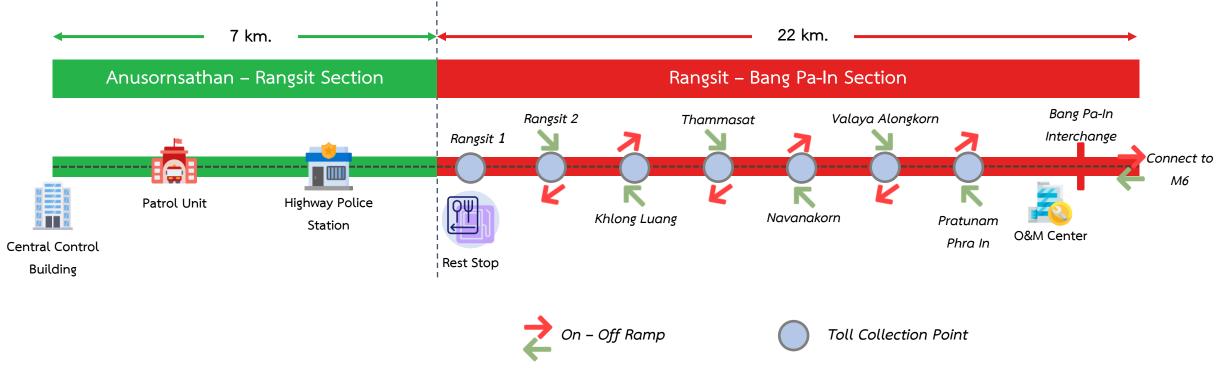


Project Alignment and Characteristics



The Uttraphimuk Elevated Motorway alignment runs over Phaholyothin Road and is elevated for the entire route.







Private Party's Scope of Work





Design and Construction of Systems, Buildings and Related Components

- Systems, including Toll Collection System (TCS), Traffic Management and Control System, Power Supply System, Data and Communication Network System, Utility Systems, etc.
- Ancillary Buildings, including Central Control Building, Patrol and Rescue Unit, Operations and Maintenance (O&M) Center, Highway Police Station, and Maintenance Workshop Building, as well as rest stops.

Operation and Maintenance (O&M)

- Project Operation, such as toll collection management, Traffic Management and Control, license plate verification, rescue and emergency services, traffic facilitation, project repair and maintenance, rest stops operation, etc.
- Project Maintenance, such as maintenance of the Toll Collection System, Electrical System, Information and Communication Technology (ICT) System, structure, buildings, pavement, traffic signs and road furniture, project rest stops, highway landscaping, etc.

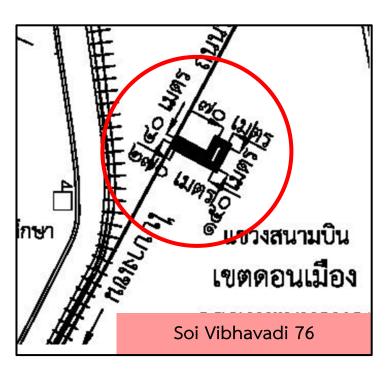


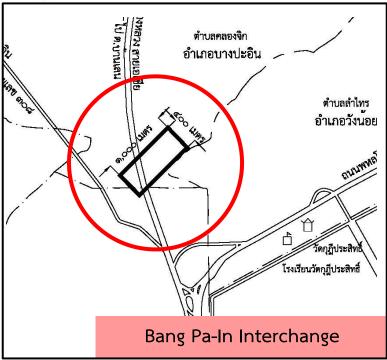
Project Readiness Status



แผนที่ท้ายพระราชกฤษฎีกากำหนดเขตที่ดินที่จะเวนคืน

ในท้องที่ ตำบลคลองจิก อำเภอบางปะอิน จังหวัดพระนครศรีอยุธยา และแขวงสนามบิน เขตดอนเมือง จังหวัดกรุงเทพมหานคร





For land readiness, most of the project construction areas is within the DOH's original right-of-way (ROW). There are only a few sections that require land expropriation for the construction of the Bang Pa-in Interchange (to serve as the connection point with the Bang Pa-in – Nakhon Ratchasima Project (M6)) and the site of the Central Control Building (Soi Vibhavadi 76).

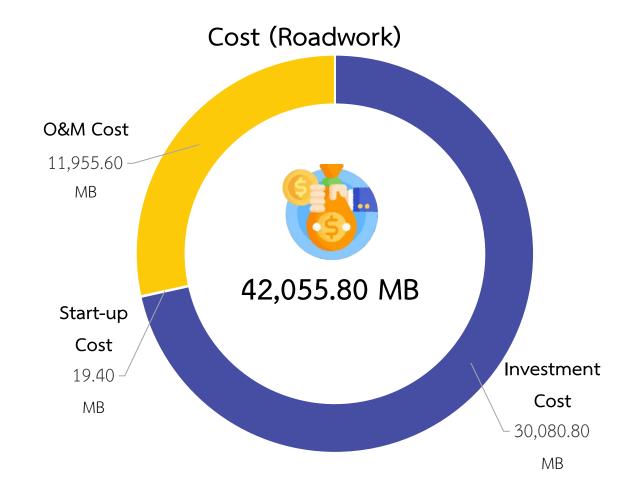
Currently, the draft Royal Decree specifying the land areas to be expropriated for the project construction is pending approval.



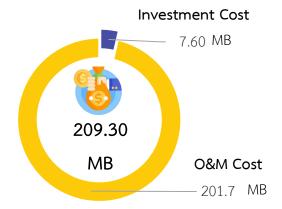


Cost Estimation









Note: Based on the Feasibility Report Info.



Traffic Volume and Toll Revenue Projection

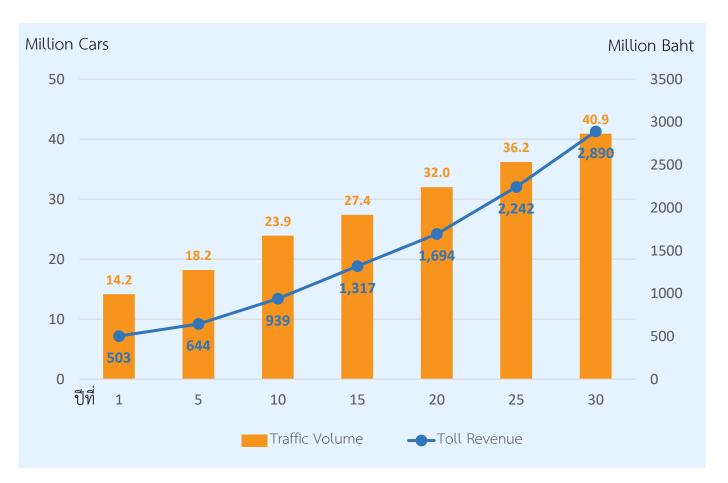


Toll Rate Structure

Vehicle Type	Toll Rate
4-wheeled Vehicles	Baht 20 or 40/Vehicle
Over-4-wheeled Vehicles	Baht 30 or 65/Vehicle

Rates as of the Service Commencement Year

Projected Traffic Volume and Toll Revenue



Note: Toll rate are subject to increase once every 5 years, at a rate of 2.5% per year.





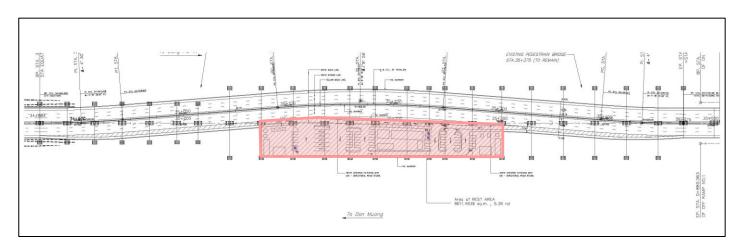
Project Commercial Revenue



Rest Stop

The Rangsit 1 toll collection point (Inbound) covers 5-rai area.

The private party shall be authorized to invest in, establish, and manage the entire rest area. The private party shall offer compensation to the DOH for the rest stop and shall assume full financial responsibility for its development, ongoing management, and the provision of all commercial and retail services.







Economic and Financial Analysis Findings



Economic and Financial Feasibility Results

Investment by Government

Indicator	Economic Analysis	Financial Analysis
Net Present Value (NPV)	7,928 MB (Discount Rate 12 %)	-14,032 MB (Discount Rate 3 %)
Internal Rate of Return (IRR)	EIRR 15.20 %	FIRR -0.37 %
Benefit-Cost Ratio (B/C Ratio)	1.42	0.6
Payback Period (PBP)	-	> 30 years

Financial Results from the Private and Public Sector Perspectives

PPP Gross Cost

	Project NPV	2,128 MB (Discount Rate 4.25 %)
Private Sector's	Project IRR	4.98 %
Perspective	Equity IRR	8.00 %
	Project Payback Period	11 years 8 months
Government's Perspective	Project IRR	-12.14 %

Total PV of Availability Payment shall not exceed 47,881 MB

(Discount Rate 3 %)

Note:

- Based on updated prices as of 2022 (B.E. 2565) as approved by the Cabinet.





Project Principles











Under the PPP Gross Cost scheme, the private party shall design and invest in the construction of the 6-lane elevated road, including related systems and components, such as on/off ramps, interchanges, the barrier-free automatic tolling system (M-Flow system), Traffic Management and Control systems, and rest areas. The private party shall also operate and maintain the Uttraphimuk Elevated Motorway Project (M5), Rangsit – Bang Pa-In Section, constructed by itself, and the Anusornsathan – Rangsit Section currently managed by the DOH. Furthermore, the private party shall be responsible for managing and collecting all toll fees and remitting them to the government, according to the defined scope and conditions throughout the contract period.

The government holds ownership of the assets invested in and constructed by the private party, including all toll revenues.

Total project duration, which is divided into 2 following period, shall not exceed 34 years:

- ★ Design and Construction Period Max. 4 vears
- ★ Operation and Maintenance Period <u>Max. 30 years</u>, commencing from the date the project is in full-scale operation. This period shall not be extended, even if the private party completes the design and construction and commences operation before the expiration of the 4-year design and construction period.

The private party shall receive the availability payment for its services, up to a present value limit of Baht 47,881 million. The government shall make 2 separate repayments: a repayment for construction investment lasting a minimum of 15 years, and a repayment for O&M costs spanning 30 years from the service commencement year. Separately, the private party is permitted to invest in, procure, and operate the rest areas, covering all development and management expenses, while simultaneously being required to pay compensation to the DOH as stipulated in the contract.







Project Implementation Plan





and RFP Selling

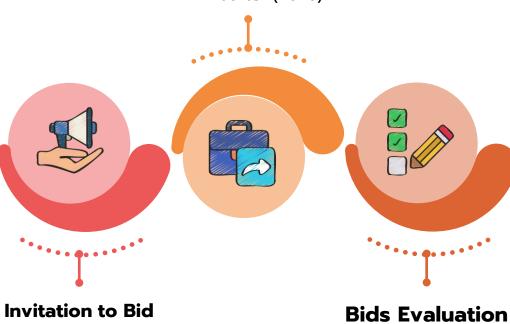
1st Quarter (2026)

Project Implementation Plan



Bids Submission by Private Entities

2nd Quarter (2026)



2nd Quarter (2026)

Draft Contract Negotiation

3rd Quarter (2026)



Implementation pursuant to Sections 41 and 42 of the Public-Private Partnership Act -Submission of the Private Party Selection Result

- · The draft contract shall be submitted to the Attorney General
- The Attorney General shall review the draft contract within 45
- The supervising ministry shall review and approve the selection results within 30 days.
- The selection result shall be submitted to the Cabinet for final approval.

Full-Scale Operation

(2031)



PPP Contract Signing

4th Quarter (2026)







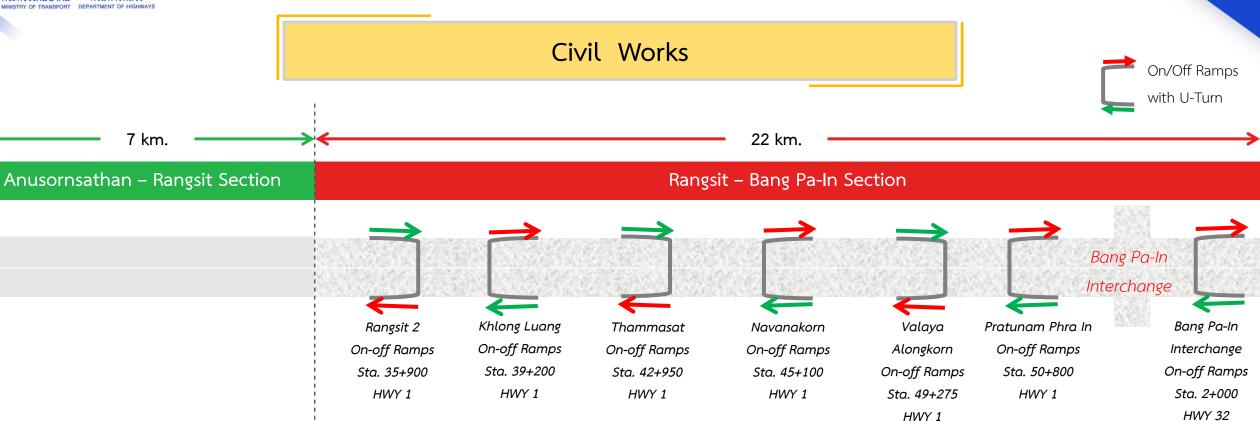
Key Provisions of the Draft Invitation to Bid, Draft RFP and Draft PPP Contract

Design and Construction Requirements Framework





Key Provisions of the Draft Invitation to Bid and Draft RFP



Rehabilitation of Existing Elevated Road

7 km.

- Traffic Management and Control
- CCB, Police Stations and Patrol and Rescue Unit
- Civil Works (Traffic Signs and Signals, Drainage, Lighting, Structural Works)

Construction of New Elevated Road

- Civil Works: (Construction of 6-lane elevated highway, on-off ramps with U-turn, M6 on/off ramp connections and rehabilitation of affected at-grade roads)
- Traffic Management and Control Systems: Toll Collection System, toll plaza control building and maintenance building

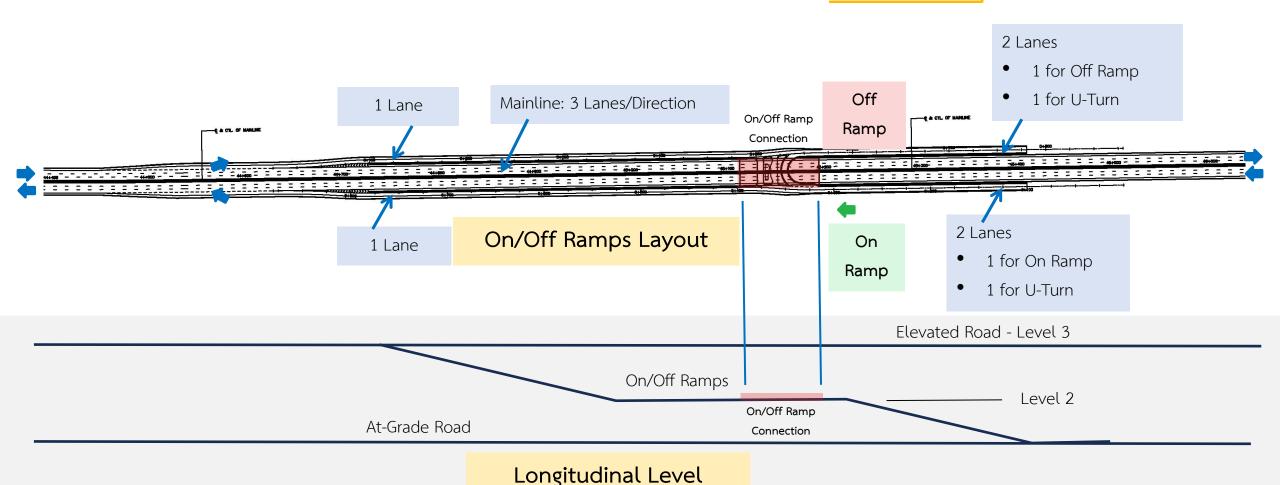






Key Provisions of the Draft Invitation to Bid and Draft RFP

Civil Works (On/Off Ramps and U-Turn Designs)





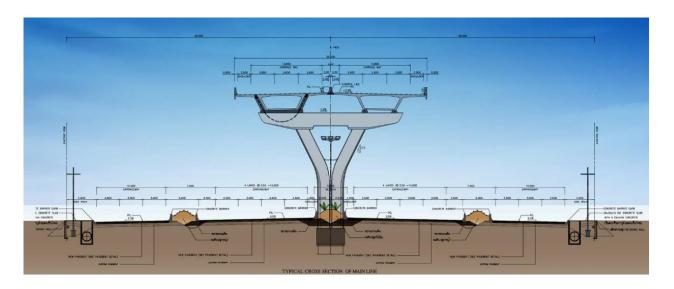




Key Provisions of the Draft Invitation to Bid and Draft RFP

Structural Works

Project Highway Design



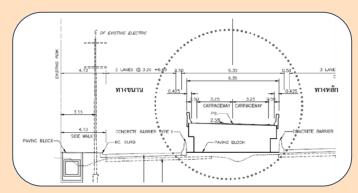
3-Lane Elevated Highway per Direction

Lane Width: 3.50 m.

Widths of Left and Right Shoulders: 2.00 and 1.00 m. respectively

The project on/off ramps also serve as elevated U-turns

- There are 2 lanes at the beginning of the elevated section (1 lane for on/off ramps and 1 lane for U-turn)
- After the U-turn, the on/off ramps lane will be reduced to 1



Typical cross-section of the on/off ramp where it connects with the at-grade road

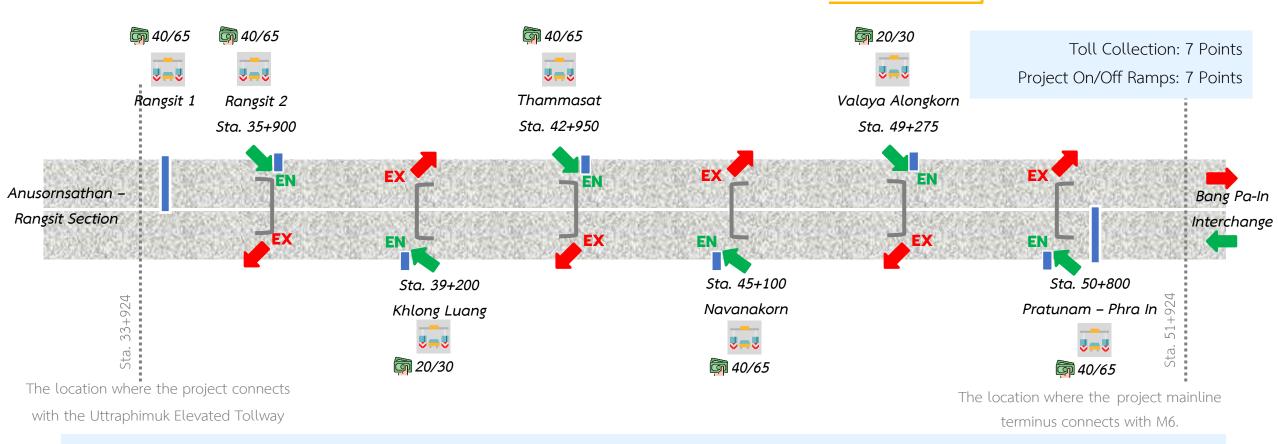






Key Provisions of the Draft Invitation to Bid and Draft RFP

Toll collection system - Entry & Exit Point



The project features open-system toll collection utilizing the barrier-free automatic tolling system (M-Flow).





= Toll Rates (4-Wheeled/Over-4-Wheeled Vehicles) as of the Service Commencement Year

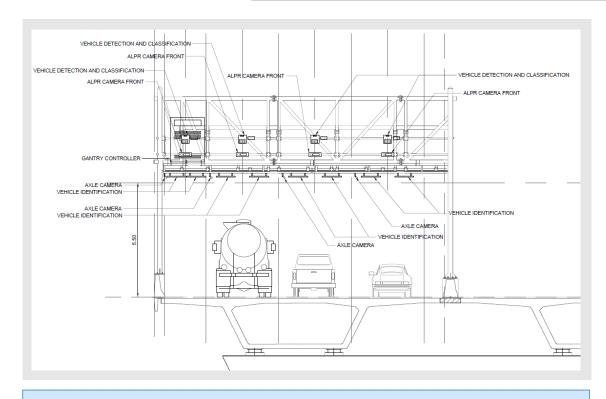






Key Provisions of the Draft Invitation to Bid and Draft RFP

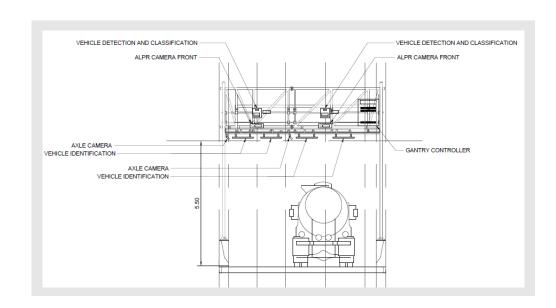
Toll collection system - Gantry



Mainline Gantry

(3 Lanes + 1 Shoulder)

At Rangsit 1 and Pratunam Phra In Toll Collection Points



On-Ramp Gantry

(1 Lane + 1 Shoulder)

At Rangsit 2, Khlong Luang Thammasat, Navanakorn, Valaya Alongkorn and Pratunam Phra In Toll Collection Points







Key Provisions of the Draft Invitation to Bid and Draft RFP

Toll collection system - Equipment

Automatic License Plate Recognition (ALPR) cameras are capable of reading license plates and provinces in Thailand using on-board AI technology.







Automatic Vehicle Identification (AVI) equipment consists of an RFID reader and an antenna.









Automatic Vehicle Classification (AVC) equipment utilizes LiDAR technology or equivalent.







Digital Video Enforcement System (DVES) cameras are used to record incidents as vehicles pass through the toll point.













Key Provisions of the Draft Invitation to Bid and Draft RFP

Traffic management and control system

Motorist Communication **Devices**



VMS Variable Message Sign



ISLUS Integration Speed & Lane Use Sign



ETS Emergency Telephone System

Surveillance Tools

Closed Circuit Television

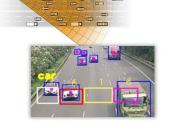


Fixed Camera



PTZ Camera

Traffic Sensors and Traffic Safety Tools



TDS Traffic Detection System



ATID Automatic Traffic Incident Detection System



ASE Automatic Speed Enforcement

Traffic Operation Center (TOC)



Wall Display with Dashboard & Map Application



Traffic Incident Management System



Desktop Computer for Monitoring & Operating

Communication System



Call Center



IP Phone

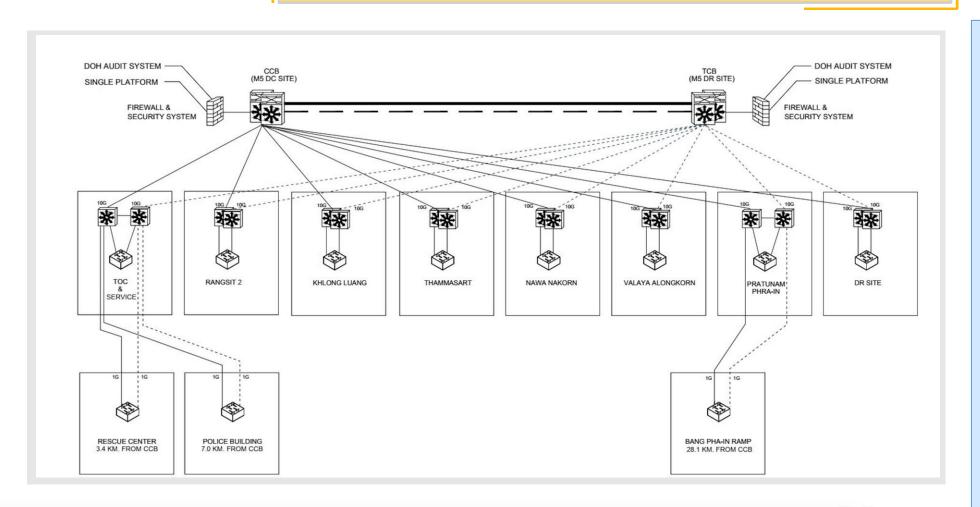






Key Provisions of the Draft Invitation to Bid and Draft RFP

Communication Network



Core Layer:

- CCB Core Switch, Firewall, & Security
- TCB Core Switch, Firewall, & Security
- Connecting to M-Flow Single Platform, M-Flow Audit
- Backbone 10 Gbps

Distribution Layer:

- TOC & Service, DR Site, TCB
- Each site has a Distribution Switch directly connected to the Core Switch
- Speed 1 Gbps

Access Layer:

- CCB, TCB, O&M Building
- Rescue Center
- Police Building
- Bang Pha-in Ramp

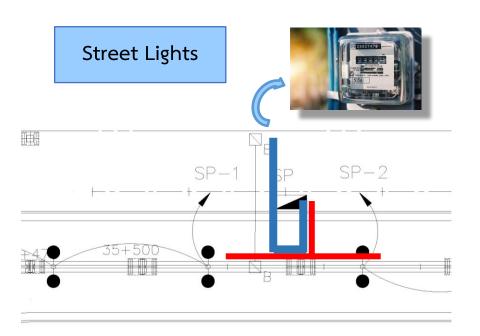






Key Provisions of the Draft Invitation to Bid and Draft RFP

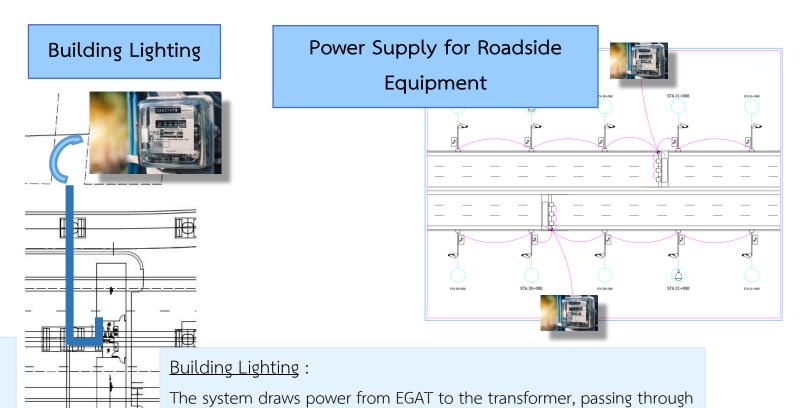
Power Distribution System



<u>Lighting</u>: The system draws power from EGAT to the transformer, passing through the meter. Power is then routed via conduit from the roadside utility pole to the supply pillar.

Wiring alignment runs from the meter to the supply pillar.

From the supply pillar to lighting fixtures



the meter, and then entering the MDB cabinet located in the building,

Wiring alignment runs from the meter into the building.

with a generator serving as the backup power system.





Key Provisions of the Draft Invitation to Bid and Draft RFP

Buildings



Highway Police Station



Patrol Unit





Operation and Maintenance Center



Rest Stop



Central Control Building







Key Provisions of the Draft Invitation to Bid and Draft RFP

Buildings

Asia Aviation Academy CAE #University #Uni

Sta. 26+250

Central Control Building

(Renovation and Extension to the DOH' Bureau of Mechanical Equipment and Communication Building)

Including but not limited to:

- Building Maintenance Mgr. (30 sq. m.)
- Information & Customer Service (37.50 sq. m.)
- Security Guard (15 sq. m.)
- Canteen (160 sq. m.)
- Administration (48.50 sq. m.)
- M-Flow System Monitoring and Management Center (82 sq. m.)
- Engineering CE/ME/EE/IT/Traffic (54 sq. m.)
- The DOH's Personnel (190 sq. m.)
- M-Flow Data Center, Audit Data Center (52 sq. m.)
- Traffic Control Server (26 sq. m.)
- Traffic Operation Center (104 sq. m.)
- Conference Room (106 sq. m.)
- UPS and Battery (36 sq. m.), Nitrogen (27 sq. m.), etc.

Central Control Building

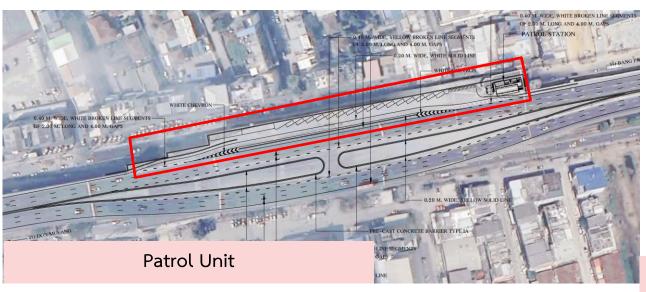






Key Provisions of the Draft Invitation to Bid and Draft RFP

Buildings



Renovation of the existing toll plaza building at **Sta. 29+500**, on the Uttraphimuk Elevated Tollway, Anusornsathan – Rangsit Section, including but not limited to:

- Administration (64 sq. m.)
- Canteen (20 sq. m.)
- Office (21 sq. m.)
- Observation and Communication Room (29 sq. m.)
- UPS and Battery Room (6.40 sq. m.), etc.

Renovation of the existing toll plaza building at **Sta. 29+500**, on the Uttraphimuk Elevated Tollway, Anusornsathan – Rangsit Section, including but not limited to:

- Detention Room (40 sq. m.)
- Staff Room (21 sq. m.)









Key Provisions of the Draft Invitation to Bid and Draft RFP

Buildings

Operation and Maintenance Center at Bang Pa-In Interchange



For example,

- Maintenance Department (35 sq. m.)
- Storage (300 sq. m.)
- Staff Accommodation (50 sq. m.)
- Rescue Equipment Storage Room (35 sq. m.)
- Stand-by Generator (24 sq. m.)
- M-Flow Server (35 sq. m.), UPS. Battery (20 sq. m.), Nitrogen (24 sq. m.)

Rest Stop







Rest Stop functional requirements include:

- Office area
 - Parking spaces
- Commercial area
- Resting pavilion
- Public toilets
- Landscape







Key Provisions of the Draft Invitation to Bid and Draft RFP

Relocation of Utilities and Facilities

Relocation of Utilities and Facilities	Authority In-Charge
Relocation of the EGAT's high-voltage power cables that pass over the project area	Electricity Generating Authority of Thailand
Relocation of utilities on the sidewalk sections where portal frame on sidewalks are constructed, and in the areas where the sidewalk is cut back	 Provincial Electricity Authority Provincial Waterworks Authority National Telecom Public Co., Ltd.
Relocation of underground telephone cables in the areas where portal frame of median and separators are constructed, and where underground telephone cables are laid	 National Telecom Public Co., Ltd.
Relocation of pedestrian bridges	Department of Highways

















Key Provisions of the Draft Invitation to Bid and Draft RFP

Rehabilitation of the Elevated Tollway, Anusornsathan – Rangsit Section

Work Category	Description
Structure	Improve expansion joints and bearings along the entire alignment
Drainage System	Re-install all cast iron gratings
	Install downspout pipes and clean outs at the column face, in areas where they are missing.
	Install additional drainage catch basins at the column base, in areas where they are missing or damaged.
Lighting System	Run wiring inside the lighting fixtures and between them, along with the installation of new protective devices
	Install cover plates in the barrier area and run entirely new wiring
	Install equipment inside the supply pillar and run entirely new electrical conduit















(M5)

Key Provisions of the Draft Invitation to Bid and Draft RFP

Traffic Management During Construction

Public Communication

- A centralized control and command center shall be established to monitor and manage traffic in real time during the construction period.
- CCTV systems and Mobile Variable
 Message Signs (VMS) shall be
 installed to provide real-time traffic
 information in construction areas,
 enabling road users to select
 appropriate alternative routes.
- Public communication shall be conducted through radio stations, television broadcasts, and official project or Department of Highways websites to inform the public of lane closures and diversions during construction.

Traffic Management

- Adequate lighting systems shall be installed to ensure visibility and safety.
- Traffic signs and safety devices shall be provided in full compliance with the Department of Highways' standards.
- A traffic management plan shall be prepared for each construction activity and closely monitored to ensure completion within the scheduled timeframe.
- The start and end dates of construction activities affecting traffic flow shall be clearly identified and communicated.
- In cases where multiple agencies conduct operations within the same construction area, their activities should be coordinated to occur concurrently to minimize traffic disruption.



Duplicate of Traffic Management During On-Off Ramp Construction



Duplicate of Traffic Management During Elevated Road Construction at Raised Median







Key Provisions of the Draft Invitation to Bid, Draft RFP and Draft PPP Contract

Operation and Maintenance Requirements Framework



Operation and Maintenance Requirements Framework

Key Provisions of the Draft Invitation to Bid and Draft RFP

1 General Requirements	7 Environmental Management
2 Operation & Maintenance Plans	8 Service Level Agreement
3 Maintenance Requirements	9 Handback
4 Operation Requirements	10 Key Performance Indicator (KPI)
5 Asset Management Systems	11 O&M Limit Drawings
6 Corridor Management	12 Rest Stop



Operation and Maintenance Requirements Framework

Key Provisions of the Draft Invitation to Bid and Draft RFP

General Requirements

This Section discusses about the:

- operation and maintenance requirements for the M5 assets;
- day-to-day operations from COD until the end of the contract period;
- safety of the public and employees.

Submit annual O&M quality planISO certified within 18 months from CODConduct regular training
 Discuss about the responsibilities of the: DOH, & Private Party Operate & maintain within the O&M limit Private Party shall not be responsible for the utility of: street lighting, highway police station; and DOH's superintendent office.
 Provide the DOH access to all necessary information.
~ Support DOH for other tolling projects
 Conduct monthly meetings Submit reports Provide training to DOH DOH & Private Party may request variation of works





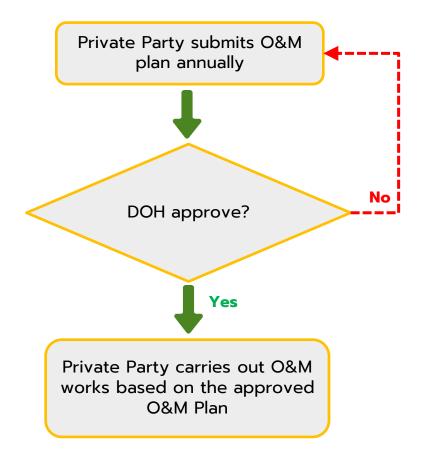
Key Provisions of the Draft Invitation to Bid and Draft RFP

Operation & Maintenance Plans

O&M PLAN

- ~ Safety Plan
- ~ Equipment Plan
- Toll Collection and Operations Plan
- Traffic Management and Control Plan
- Customer Service Plan
- Emergency Management and Operations Plan
- Facilities Operations Plan
- Maintenance Plan

O&M Plan submission flow chart



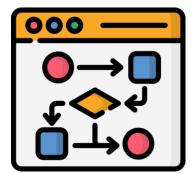




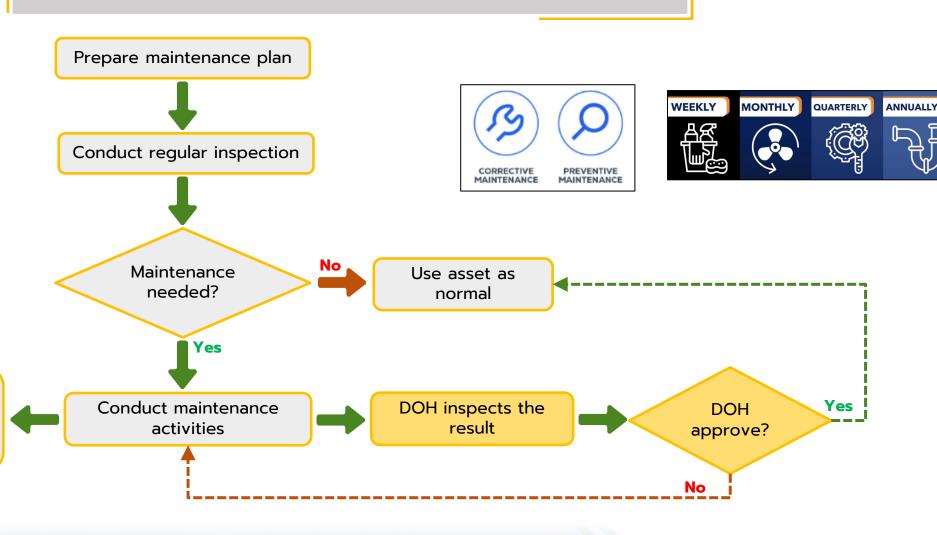
Key Provisions of the Draft Invitation to Bid and Draft RFP

Maintenance Requirements

Maintenance Flow Chart



- Record data in MOMS
- Prepare and submit maintenance report







Key Provisions of the Draft Invitation to Bid and Draft RFP

DOH Section Works

Constructed by the **DOH** and handed over to the Private Party such as:

- Bridge (Anusornsatan-Rangsit),
- · Bridge drainage,
- · Delineation,
- · Median barrier and parapet,
- Street light and signages, etc.
- Buildings (CCB, Patrol Unit 1, Highway Police Station)

Re-measurement

Replacement of bridge accessories

Negotiation (Bridge NBI rating 0-6)

Lumpsum

All maintenance works not mentioned in re-measurement works.

Lumpsum

PPP Section Works

Constructed & installed by the **Private Party** such as:

- Bridge (Rangsit-Bang Pa-In),
- Toll collection system,
- · Traffic management system,
- Network communication system,
- Buildings (TCB, Patrol Unit 2 & 3, O&M Center, Rest Area)
- Landscaping, etc.

DOH Section Works Handover to Private Party

DOH and Private Party conduct joint inspection of the DOH Section Works



DOH shall handover the DOH Section Works to Private Party



Private Party shall accept the DOH Section Works in their existing condition, without objection



Private Party shall improve the DOH Section Works (Lumpsum)





Key Provisions of the Draft Invitation to Bid and Draft RFP

Maintenance Activities

	Manitenance Activities
Gener	ral Information
Roadv	way Maintenance
Paven	ment Delineation Maintenance
Draina	age Maintenance & Slope Repair
Lands	scape & Roadside Maintenance
Bridge	e & Structure Maintenance
Third	Party Damages Repair & Maintenance
Roadv	way Safety Features & Systems Maintenance
Signs	& Sign Systems Maintenance
Roadv	way Lighting & Power Distribution System Maintenance
Toll G	antry Area Maintenance
Toll Co	collection System Maintenance
Traffic	c Management & Control System Maintenance
Buildir	ng & Related Facility Maintenance
Netwo	ork Communication Maintenance

Maintenance Requirements

- Re-measurement works:
 - Unit PriceReplacement of bridge bearing
 - Negotiation (Bridge NBI rating 0-6)
- Lumpsum works:

All maintenance works not mentioned in re-measurement works.

Key Performance Indicator

• Quarterly maintenance work report (submit on time)





Key Provisions of the Draft Invitation to Bid and Draft RFP

Maintenance Activities

General	Intorm	nation
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	_	

Roadway Maintenance

Pavement Delineation Maintenance

Drainage Maintenance & Slope Repair

Landscape & Roadside Maintenance

Bridge & Structure Maintenance

Third Party Damages Repair & Maintenance

Roadway Safety Features & Systems Maintenance

Signs & Sign Systems Maintenance

Roadway Lighting & Power Distribution System Maintenance

Toll Gantry Area Maintenance

Toll Collection System Maintenance

Traffic Management & Control System Maintenance

Building & Related Facility Maintenance

Network Communication Maintenance



Maintenance Requirements

- Preventive maintenance
- Corrective maintenance
- Provide 2-year warranty for at-grade roads (outside O&M Limit)
- Replace concrete pavement joint for access road once every 5 years
- IRI and IFI shall be measured twice a year

- Ride quality (maintain condition of IRI & IFI)
- Pavement damages (not present)
- Debris and litter (not present)





Key Provisions of the Draft Invitation to Bid and Draft RFP

Maintenance Activities

Genera	Intorm	nation

Roadway Maintenance

Pavement Delineation Maintenance

Drainage Maintenance & Slope Repair

Landscape & Roadside Maintenance

Bridge & Structure Maintenance

Third Party Damages Repair & Maintenance

Roadway Safety Features & Systems Maintenance

Signs & Sign Systems Maintenance

Roadway Lighting & Power Distribution System Maintenance

Toll Gantry Area Maintenance

Toll Collection System Maintenance

Traffic Management & Control System Maintenance

Building & Related Facility Maintenance

Network Communication Maintenance



Delineators:

- Road Studs
- Prismatic Reflectors
- Pavement Markings
- Anti-glare screen

Maintenance Requirements

- · Preventive maintenance
- · Corrective maintenance

- Pavement markings (maintain retroreflectivity level)
- Marker and delineator (clean and visible)





Key Provisions of the Draft Invitation to Bid and Draft RFP

Maintenance Activities

General Information

Roadway Maintenance

Pavement Delineation Maintenance

Drainage Maintenance & Slope Repair

Landscape & Roadside Maintenance

Bridge & Structure Maintenance

Third Party Damages Repair & Maintenance

Roadway Safety Features & Systems Maintenance

Signs & Sign Systems Maintenance

Roadway Lighting & Power Distribution System Maintenance

Toll Gantry Area Maintenance

Toll Collection System Maintenance

Traffic Management & Control System Maintenance

Building & Related Facility Maintenance

Network Communication Maintenance



Maintenance Requirements

- · Preventive maintenance
- · Corrective maintenance

Key Performance Indicator

Drainage Maintenance and Slope Repair

Bridge drainage (clean and no obstruction)

Landscape & Roadside Maintenance

• Noise Barrier (good condition)





Key Provisions of the Draft Invitation to Bid and Draft RFP

Maintenance Activities

General Information

Roadway Maintenance

Pavement Delineation Maintenance

Drainage Maintenance & Slope Repair

Landscape & Roadside Maintenance

Bridge & Structure Maintenance

Third Party Damages Repair & Maintenance

Roadway Safety Features & Systems Maintenance

Signs & Sign Systems Maintenance

Roadway Lighting & Power Distribution System Maintenance

Toll Gantry Area Maintenance

Toll Collection System Maintenance

Traffic Management & Control System Maintenance

Building & Related Facility Maintenance

Network Communication Maintenance

Maintenance Requirements

- Preventive maintenance (Lump sum AP)
- Corrective maintenance (Re-measurement for DOH Section Works)
- Employ Third Party bridge & inspectors
- Clean & lubricate bearings every 5 years
- Repaint the entire bridge concrete parapet and median barrier once every 5 years
- · Overseas bridge training once every 5 years

DOH Section Works (Anusornsatan-Rangsit)

Re-measurement

Bridge accessories replacement & NBI Code: 0-6 Maintenance

Lump Sum AP

NBI Code: 7-9 Maintenance

- Bridge structure (preventive maintenance)
- Bridge expansion joint (good condition)
- Graffiti (not present)







Key Provisions of the Draft Invitation to Bid and Draft RFP

Maintenance Activities

			. •	
Gen	eral	Into	rmation	

Roadway Maintenance

Pavement Delineation Maintenance

Drainage Maintenance & Slope Repair

Landscape & Roadside Maintenance

Bridge & Structure Maintenance

Third Party Damages Repair & Maintenance

Roadway Safety Features & Systems Maintenance

Signs & Sign Systems Maintenance

Roadway Lighting & Power Distribution System Maintenance

Toll Gantry Area Maintenance

Toll Collection System Maintenance

Traffic Management & Control System Maintenance

Building & Related Facility Maintenance

Network Communication Maintenance



Maintenance Requirements

Emergency maintenance (vehicle collision, vandalism, natural disasters)

Key Performance Indicator

· Bridge structure damaged due to incident





Key Provisions of the Draft Invitation to Bid and Draft RFP

Maintenance Activities

		. •
Genera	Intorm	ation

Roadway Maintenance

Pavement Delineation Maintenance

Drainage Maintenance & Slope Repair

Landscape & Roadside Maintenance

Bridge & Structure Maintenance

Third Party Damages Repair & Maintenance

Roadway Safety Features & Systems Maintenance

Signs & Sign Systems Maintenance

Roadway Lighting & Power Distribution System Maintenance

Toll Gantry Area Maintenance

Toll Collection System Maintenance

Traffic Management & Control System Maintenance

Building & Related Facility Maintenance

Network Communication Maintenance

Maintenance Requirements

- · Preventive maintenance
- Corrective maintenance

- Safety concrete barrier (good condition)
- Impact attenuator (good condition)







Key Provisions of the Draft Invitation to Bid and Draft RFP

Maintenance Activities

		. •
Genera	I Intor	mation

Roadway Maintenance

Pavement Delineation Maintenance

Drainage Maintenance & Slope Repair

Landscape & Roadside Maintenance

Bridge & Structure Maintenance

Third Party Damages Repair & Maintenance

Roadway Safety Features & Systems Maintenance

Signs & Sign Systems Maintenance

Roadway Lighting & Power Distribution System Maintenance

Toll Gantry Area Maintenance

Toll Collection System Maintenance

Traffic Management & Control System Maintenance

Building & Related Facility Maintenance

Network Communication Maintenance

Maintenance Requirements

- · Preventive maintenance
- · Corrective maintenance
- Re-paint all components including its gantry, steel frames and posts once every 5 years.

····

- Traffic sign panel (good condition)
- Traffic sign structure (good condition)
- Traffic sign retroreflectivity (maintain retroreflectivity)





Key Provisions of the Draft Invitation to Bid and Draft RFP

Maintenance Activities

General	I Information

Roadway Maintenance

Pavement Delineation Maintenance

Drainage Maintenance & Slope Repair

Landscape & Roadside Maintenance

Bridge & Structure Maintenance

Third Party Damages Repair & Maintenance

Roadway Safety Features & Systems Maintenance

Signs & Sign Systems Maintenance

Roadway Lighting & Power Distribution System Maintenance

Toll Gantry Area Maintenance

Toll Collection System Maintenance

Traffic Management & Control System Maintenance

Building & Related Facility Maintenance

Network Communication Maintenance



- Preventive maintenance
- · Corrective maintenance
- Replace fully the power distribution line at least once within the O&M period

- Road lighting and illuminance (good condition, maintain illuminance)
- Systems unavailability







Key Provisions of the Draft Invitation to Bid and Draft RFP

Maintenance Activities

			. •	
Gen	eral	Into	rmation	

Roadway Maintenance

Pavement Delineation Maintenance

Drainage Maintenance & Slope Repair

Landscape & Roadside Maintenance

Bridge & Structure Maintenance

Third Party Damages Repair & Maintenance

Roadway Safety Features & Systems Maintenance

Signs & Sign Systems Maintenance

Roadway Lighting & Power Distribution System Maintenance

Toll Gantry Area Maintenance

Toll Collection System Maintenance

Traffic Management & Control System Maintenance

Building & Related Facility Maintenance

Network Communication Maintenance

Maintenance Requirements

- · Preventive maintenance
- Corrective maintenance
- Re-paint M-Flow gantry, steel frames and posts once every 5 years.

Key Performance Indicator

Toll Gantry Structure (good condition)







Key Provisions of the Draft Invitation to Bid and Draft RFP

Maintenance Activities

General Information

Roadway Maintenance

Pavement Delineation Maintenance

Drainage Maintenance & Slope Repair

Landscape & Roadside Maintenance

Bridge & Structure Maintenance

Third Party Damages Repair & Maintenance

Roadway Safety Features & Systems Maintenance

Signs & Sign Systems Maintenance

Roadway Lighting & Power Distribution System Maintenance

Toll Gantry Area Maintenance

Toll Collection System Maintenance

Traffic Management & Control System Maintenance

Building & Related Facility Maintenance

Network Communication Maintenance

Maintenance Requirements

- · Preventive maintenance
- · Corrective maintenance
- Software maintenance

Key Performance Indicator

Toll Collection System Maintenance & Network Communication Maintenance

Systems unavailability

Traffic Management and Control System Maintenance

- Display of VMS, ISLUS (present and visible)
- · Systems unavailability







Key Provisions of the Draft Invitation to Bid and Draft RFP

Maintenance Activities

General	Inform	ation
	•	

Roadway Maintenance

Pavement Delineation Maintenance

Drainage Maintenance & Slope Repair

Landscape & Roadside Maintenance

Bridge & Structure Maintenance

Third Party Damages Repair & Maintenance

Roadway Safety Features & Systems Maintenance

Signs & Sign Systems Maintenance

Roadway Lighting & Power Distribution System Maintenance

Toll Gantry Area Maintenance

Toll Collection System Maintenance

Traffic Management & Control System Maintenance

Building & Related Facility Maintenance

Network Communication Maintenance

Maintenance Requirements

- Preventive maintenance
- Corrective maintenance
- Building painting once every 8-10 years (at least 3 times)
- Replacement of sanitary wares once every 14 years (at least 2 times)

Key Performance Indicator

Systems unavailability (UPS & generator)



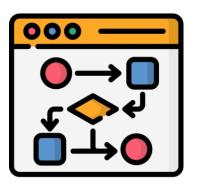




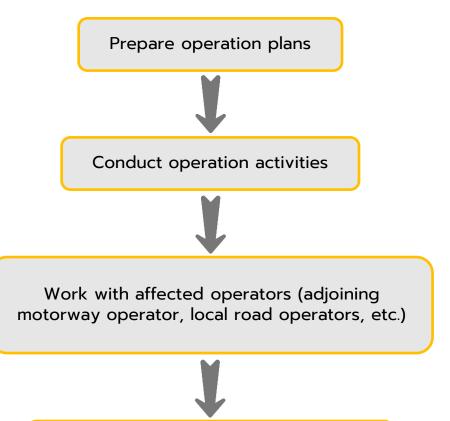
Key Provisions of the Draft Invitation to Bid and Draft RFP

Operation Requirements

Operation Flow Chart







Prepare and submit operation reports









Key Provisions of the Draft Invitation to Bid and Draft RFP

Operation Activities

M-Flow Toll Operation and Management
Traffic Management and Control
Work Zone Traffic Management
Management of Planned Events and Unplanned Events
Road Freight Management
Call Center Services
Data Collection, Analysis and reporting
IT Disaster Recovery Management
Customer Service Center
Public Relations



Operation Requirements

- M-Flow transaction data collection
- M-Flow Audit
- M-Flow Violation
- Accuracy of toll charges
- Distribution of RFID transponders

- M-Flow operation
 - capture, counting, & classification accuracy
 - toll transaction generation
 - number of generated transactions
 - accuracy of generated transactions
 - time of transaction transmitted to SPF
 - Systems unavailability



Key Provisions of the Draft Invitation to Bid and Draft RFP

Operation Activities

M-Flow Toll Operation and Management
Traffic Management and Control
Work Zone Traffic Management
Management of Planned Events and Unplanned Events
Road Freight Management
Call Center Services
Data Collection, Analysis and reporting
IT Disaster Recovery Management
Customer Service Center
Public Relations



- Observation and detection (CCTV or other devices)
- Data processing and response formulation
- Information dissemination and sharing (to other agencies and motorists) (VMS)
- Traffic operation and control (VMS, ISLUS)

- · Unavailability of traffic lane
- · Systems unavailability
- Incident management (respond within the time limit)
- · Accident & fatality rate



Key Provisions of the Draft Invitation to Bid and Draft RFP

Operation Activities

M-Flow Toll Operation and Management

Traffic Management and Control

Work Zone Traffic Management

Management of Planned Events and Unplanned Events

Road Freight Management

Call Center Services

Data Collection, Analysis and reporting

IT Disaster Recovery Management

Customer Service Center

Public Relations



Operation Requirements

- Provide information to motorists to ensure safe and orderly journey.
- Provide safe working area for workers.

Key Performance Indicator



Key Provisions of the Draft Invitation to Bid and Draft RFP

Operation Activities

M-Flow Toll Operation and Management

Traffic Management and Control

Work Zone Traffic Management

Management of Planned Events and Unplanned Events

Road Freight Management

Call Center Services

Data Collection, Analysis and reporting

IT Disaster Recovery Management

Customer Service Center

Public Relations



Operation Requirements

- Effectively manage Planned and Unplanned Events
- Provide up to date incident advice to motorists
- Assist and manage emergency and incident response
- Develop a traffic management plan and put it into place.

Key Performance Indicator



Key Provisions of the Draft Invitation to Bid and Draft RFP

Operation Activities

M-Flow Toll Operation and Management

Traffic Management and Control

Work Zone Traffic Management

Management of Planned Events and Unplanned Events

Road Freight Management

Call Center Services

Data Collection, Analysis and reporting

IT Disaster Recovery Management

Customer Service Center

Public Relations

Operation Requirements

- Allow oversize vehicles to use the M5 in accordance with any approvals by the DOH.
- Facilitate the safe, efficient and convenient passage of these oversize vehicles.

Key Performance Indicator





Key Provisions of the Draft Invitation to Bid and Draft RFP

Operation Activities

M-Flow Toll Operation and Management

Traffic Management and Control

Work Zone Traffic Management

Management of Planned Events and Unplanned Events

Road Freight Management

Call Center Services

Data Collection, Analysis and reporting

IT Disaster Recovery Management

Customer Service Center

Public Relations

Operation Requirements

Customer service center shall be open 24/7 to respond to:

- · customer's questions,
- complaints, or
- · any other matters.

- Systems unavailability
- Call center waiting (answer within 10 seconds)





Key Provisions of the Draft Invitation to Bid and Draft RFP

Operation Activities

	M-Flow	Toll (Operation	and	Management
--	--------	--------	------------------	-----	------------

Traffic Management and Control

Work Zone Traffic Management

Management of Planned Events and Unplanned Events

Road Freight Management

Call Center Services

Data Collection, Analysis and reporting

IT Disaster Recovery Management

Customer Service Center

Public Relations

Operation Requirements

- Collect and analyze operational data (traffic counts, toll collection point data, etc)
- Performance Reporting (incident management, traffic flow performance, road safety, etc.)

Key Performance Indicator





Key Provisions of the Draft Invitation to Bid and Draft RFP

Operation Activities

M-Flow Toll Operation and Management

Traffic Management and Control

Work Zone Traffic Management

Management of Planned Events and Unplanned Events

Road Freight Management

Call Center Services

Data Collection, Analysis and reporting

IT Disaster Recovery Management

Customer Service Center

Public Relations

Operation Requirements

Disaster recovery shall be able to:

- recover the M5 electronic information and
- · bring data and applications back online immediately

- Disaster recovery site (recover & restore data immediately)
- Systems unavailability





Key Provisions of the Draft Invitation to Bid and Draft RFP

Operation Activities

M-Flow Toll Operation and Management

Traffic Management and Control

Work Zone Traffic Management

Management of Planned Events and Unplanned Events

Road Freight Management

Call Center Services

Data Collection, Analysis and reporting

IT Disaster Recovery Management

Customer Service Center

Public Relations

Operation Requirements

- Account Management and Maintenance Services
- · Dispute transaction verification
- Mailroom Operations
- Customer Communications
- RFID Tag Management
- Violation Management

- Customer satisfaction level (DOH conducts survey)
- · Systems unavailability





Key Provisions of the Draft Invitation to Bid and Draft RFP

Operation Activities

M-Flow Toll Operation and Management

Traffic Management and Control

Work Zone Traffic Management

Management of Planned Events and Unplanned Events

Road Freight Management

Call Center Services

Data Collection, Analysis and reporting

IT Disaster Recovery Management

Customer Service Center

Public Relations



- Design communications campaigns.
- Write news releases and other content for news.
- · Prepare for press conferences and media interviews.
- Write website and social media content.

Key Performance Indicator

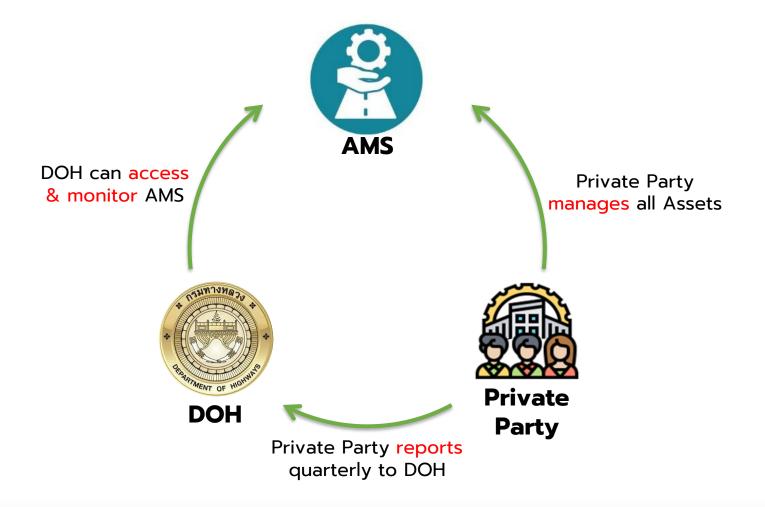






Key Provisions of the Draft Invitation to Bid and Draft RFP

Asset Management Systems (AMS)



Asset Management System (AMS):

Record:

- current,
- historical and
- projected future condition of each asset

Link any

- inventory,
- defect database, and
- testing and inspection plan

System Components

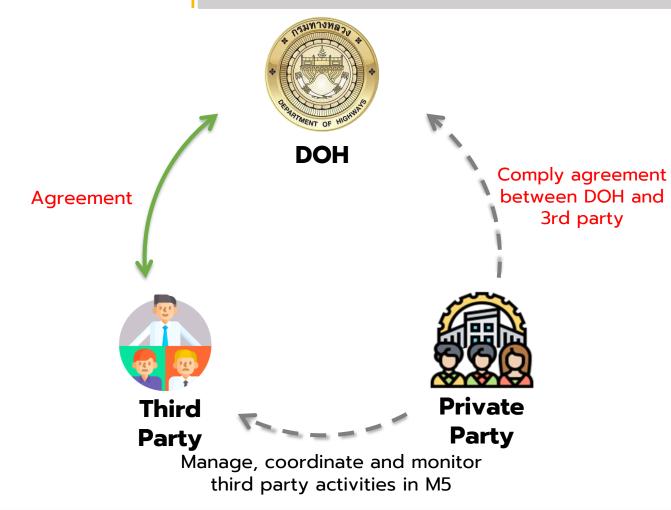
- Asset Database and Reporting;
- Decision Support and Analysis;
- Maintenance Management; and
- Structures Management;





Key Provisions of the Draft Invitation to Bid and Draft RFP

Corridor Management



Third party examples:

- Internet provider (True, AIS, etc.)
- PEA
- PWA
- DOH contractor (if any)
- Others

Access and Interface by third party to gain access in M5 to:

- · construct,
- operate or
- maintain facilities.





Key Provisions of the Draft Invitation to Bid and Draft RFP

Environmental Management

Private Party shall:

comply with all Government Acts and regulations;

- follow measures in the EIA report to:
 - prevent,
 - correct and
 - reduceenvironmental impacts.







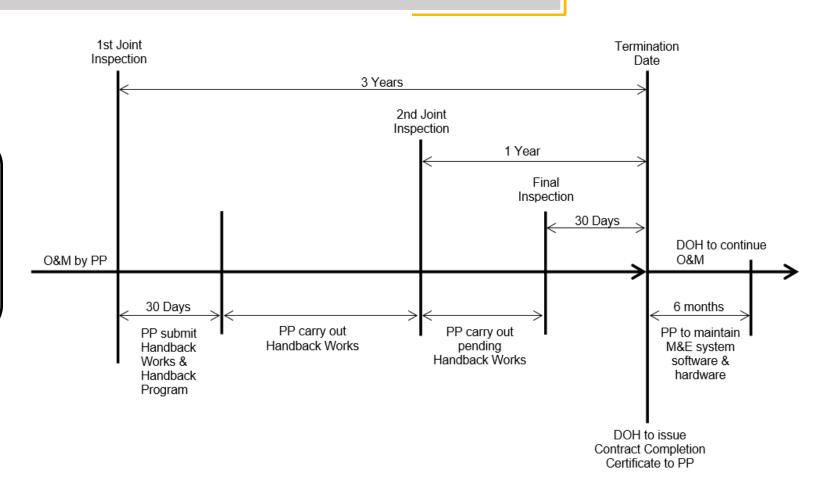




Key Provisions of the Draft Invitation to Bid and Draft RFP

Handback

- DOH and Private Party conduct joint inspection of M5 assets.
- After handback works & Termination Date, Private Party shall handback all M5 assets to DOH.
- DOH to continue M5 O&M works after Termination Date







Key Provisions of the Draft Invitation to Bid and Draft RFP

Service Level Agreement

Unavailability of Traffic Lane

- Lane(s) Closure
- Penalty: AP Deduction



- System Downtime
- Penalty: Demerit Point(s)



- Key Performance Indicator (KPI)
- Penalty: Demerit Point(s)









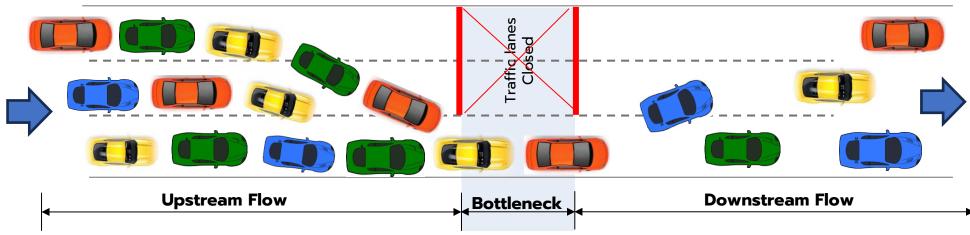


Key Provisions of the Draft Invitation to Bid and Draft RFP

Service Level Agreement









AP Deduction of Lane Closure shall be applied when;

- Unpermitted Lane Closure
- Unplanned Maintenance

Calculation of AP Deduction based on

- Traffic volume at the time of lane closure
- Duration of lane closure
- Number of traffic lane(s) closed

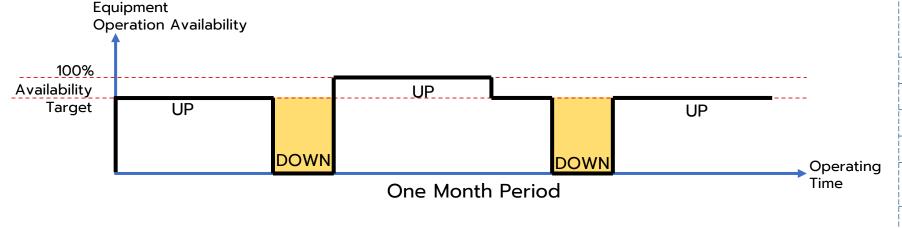




Key Provisions of the Draft Invitation to Bid and Draft RFP

Service Level Agreement

Unavailability of System



Systems Availability Formula

Availability of System (%)

Total Time of Unavailability (Downtime)

Total Operating Time – Scheduled Downtime for Maintenance

System to be assessed the availability

- (1) Toll Gantry System
- (2) Traffic Management and Control System
- (3) Power supply to all the systems at Toll Gantry, Toll Control Buildings, Central Control Building, including UPS and power generator
- (4) Communication Network System
- (5) Disaster Recovery Site
- (6) Maintenance Online Managements System
- (7) Toll Gantry Computer System (TGCS)
- (8) Headquarter Operational Back Office System (HBOFS)
- (9) Project website

100

- (10) Call center telephone equipment
- (11) Call Center Private Automatic Branch Exchange (PABX)





Key Provisions of the Draft Invitation to Bid and Draft RFP

Key Performance Indicator (KPI)



O&M Violation

KPI OPERATION

1. Quality Management





Report Submission

QA ISO9001

Certified

3. M-Flow Operation



AVI & ALPR







Capture Accuracy of Vehicles w/o RFID by ALPR



AVC Counting & Classification Accuracy



Toll Transaction Generation (number, accuracy & time transmitted to SPF)

4. Safety



- Accident Rate per Vehicle-Kilometers Traveled (VKT)
- Fatality Rate per VKT.
- Better than the floating Operating Year

2. Incident Management



Call Center Call Waiting



Incident Response Time Including Scene Clearance and Site Traffic Management



Dynamic Message Sign Posting Time



Bridge structure damage due to incident

5. Disaster Recovery (DR) Site



Recover and restore immediately

6. Customer Satisfaction



Level of Customer Satisfaction





Key Provisions of the Draft Invitation to Bid and Draft RFP

Key Performance Indicator (KPI)

3

O&M Violation

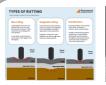
7. Ride Quality





- International Roughness Index (IRI) Asphaltic Concrete Payement
- Pavement Surface Skid Resistance

8. AC Pavement Damages





 No pavement damage (rutting, depression areas, potholes & etc.)

9. Pavement Markings



- Nighttime Visibility of White Color Pavement Markings based on 30 m geometry
- Nighttime Visibility of Yellow Color Pavement Markings based
- General Conditions of Pavement Markings
- Unused Pavement Markings

10. Road Furniture





Safety concrete barriers, Impact Attenuator, Noise Barrier, Marker & Delineator & etc. must be present, complete, clean, structurally sound.

KPI MAINTENANCE

11. Traffic Signs & Dynamic Message Sign



- Sign panel & Structure must be present, complete, clean, structurally sound and work properly.
- The display of VMS & ISLUS shall be present and visible. In case of any damage or defect, the display of VMS shall be repaired within the cure period

12. Road Lighting & Illuminance

Luminaires & Lighting Pole must be present,

Average illuminance must be 21.5 lux as a

complete, clean and work properly.

minimum.

13. Road Drainage



 Drainage shall be clean and without obstruction.

15. Bridge



- Bridge structure
- Bridge expansion joint (Preventive Maintenance & Rating Condition Maintain)

14. Vegetation Control



 No vegetation affects the traffic lane(s) or causes sight obstruction

16. Other Indicators





- No presence of any debris and litter on roadway.
- No presence of graffiti on bridge structure, building, fence, barrier, and other structures.





Key Provisions of the Draft Invitation to Bid and Draft RFP

Key Performance Indicator (KPI)

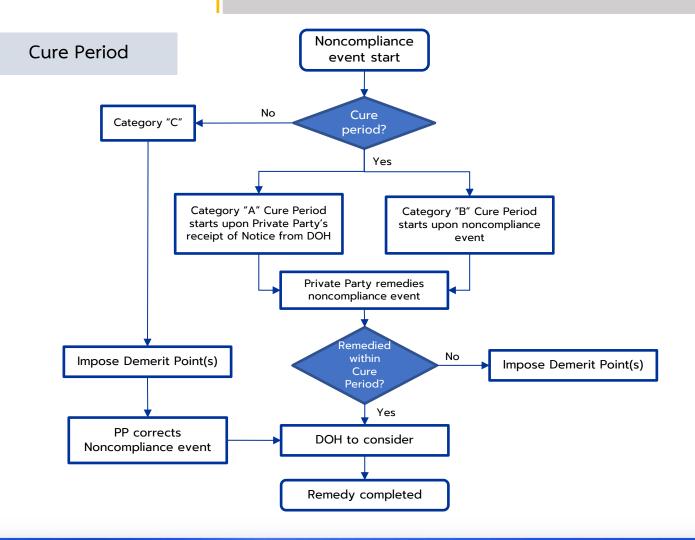
NOTIFICATION AND RECORD PROCEDURE ON LEVEL OF SERVICE FAILURE Level of Service Level of Service Failures Failures Cured Recorded in MOMS Failures No Notification on Cure DOH's Completion to DOH for Approval Approval Private Party records Level of Service (LOS) failures in MOMS. • End of cure period: Private Party updates LOS failures (cured/under Yes execution) • DOH inspects completed LOS remedy. Upon DOH's approval in MOMS, cure **MOMS** Level of Service is deemed completed. Failure Closed All LOS failure records shall be updated and retrievable by both the DOH and the Private Party at any time via MOMS.

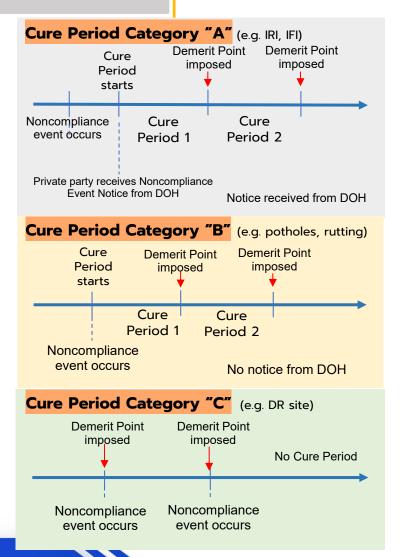




Key Provisions of the Draft Invitation to Bid and Draft RFP

Key Performance Indicator (KPI)









Key Provisions of the Draft Invitation to Bid and Draft RFP

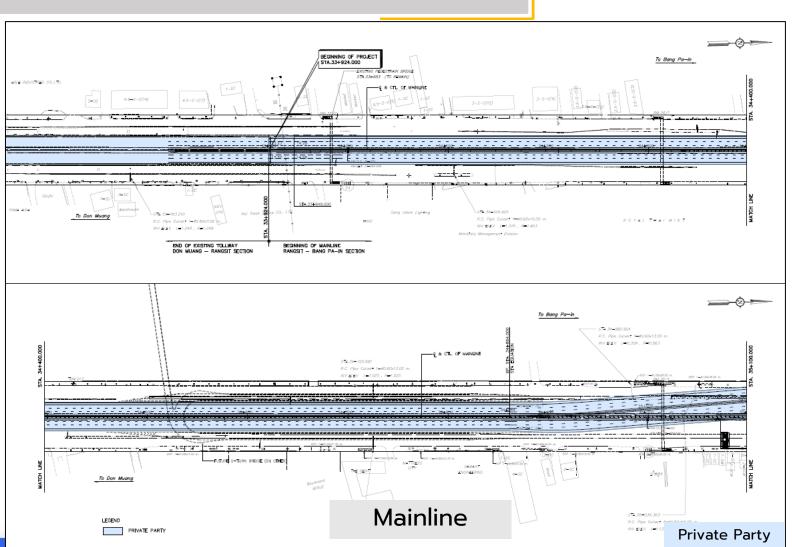
O&M Limit Drawings

O&M Limit - boundary of areas where O&M works are the responsibilities of the Private Party such as:

- Bridge,
- Ramps,
- M&E Systems,
- · Buildings,
- · Landscape,
- Street light, etc.

Outside of O&M Limit - Private Party is not responsible to operate and maintain such as:

- Connecting elevated highway,
- At grade roads,
- · Mainline at grade drainages,
- Local overpass, etc.

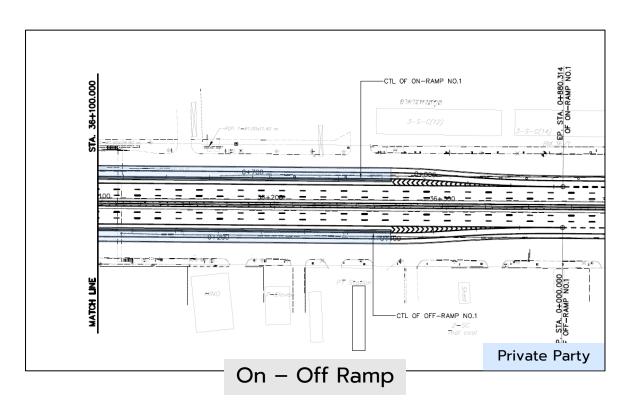






Key Provisions of the Draft Invitation to Bid and Draft RFP

O&M Limit Drawings





Soi Vibhavadi 76





Key Provisions of the Draft Invitation to Bid and Draft RFP

Rest Stop

1. Private Party' Responsibilities Regarding Laws and Regulations

- The private party shall be responsible for the operation and maintenance of the rest area, including all buildings and infrastructure, utility system, and facilities.
- The private party shall submit all the O&M-related documents to the DOH.
- O&M services shall comply with relevant laws, regulations, and standards.

2. Related Laws and Standards: For example,

- **Public-Private Partnership** Act
- **Highways** Acts
- The DOH's Requirements Regarding Standards and **Characteristics of Rest Areas**

3. Service and Area Management Requirements

- Service: Open 24/7
- Area Management : Always keep the area clean, orderly and safe for service users.

4. Assets Management Requirements

Take good care of assets, having them well maintained, to ensure they are structurally sound, safe, and always operational.



- Have assets **restored** as scheduled.
- Have the **Asset Management System** implemented throughout the contract period.
- Future modifications to facilities, due to the DOH's request for changes or additions, may take the form of cost sharing or compensation







Key Provisions of the Draft Invitation to Bid and Draft RFP

Rest Stop

5. Maintenance Requirements

- Preventive Maintenance
- Routine Maintenance
- Corrective Maintenance



6. Management and User's Communication Channels

- Lost & Found Management System shall be implemented.
- Complaints Handling :
 Feedback and complaints filing channels shall be provided for users, with relevant reports submitted to the DOH.

7. Safety Management

- Provide for sufficient numbers of personnel and equipment.
- **CCTV** cameras shall be operational 24/7.
- Conduct **emergency response drills** occasionally.

8. Project Handover

- **Joint inspection** between the DOH and the private party shall be conducted (First Inspection & Final Inspection)
- Assets shall be handed over in good and operational conditions.
- The DOH reserves the right to purchase additional assets related to the project.







Key Provisions of the Draft Invitation to Bid and Draft RFP

Rest Stop

9. Performance Evaluation

This is divided into 2 major stages:

Stage 1: Monitoring & Corrective Action

 A grace period shall be granted during the first year. If problems or errors are found, the private party shall be given an opportunity to perform corrective actions within the time stipulated by by the DOH.

Stage 2: Fine

- In case of severe violations (causing significant damages)
- In case of repeated violations (i.e. after warnings and opportunities for correction have been given, the violation still occurs.)

10. Key Performance Indicators (KPIs)

Various aspects will be taken into consideration,

For example,

- Cleanliness
- Availability for Use
- Durability and Attractiveness
- On-Time Correction
- International Safety Standards
- Users' Satisfaction, etc.









Key Provisions of the Draft Invitation to Bid, Draft RFP and Draft PPP Contract

Draft Public-Private Partnership Contract



Department of Highways (DOH)



Draft Public-Private Partnership Contract



Key Summary of the Draft Public-Private Partnership Contract

Grant the rights for the project execution to the Private Party

Deliver the Construction
Site and the DOH Section
Works (the conditions
precedent)

- Issue the Notice toProceed (NTP)
- Prescribe the date for the work commencement

- Control, supervise, and inspect the Works
- Hand over the possessory rights in respect of the PPP Section Works to the Private Party for the project implementation
- Issue the Commissioning Certificate or the Substantial Commissioning Certificate
- Return the Performance Security of the Phase 1 Works
- Control, supervise, and inspect the Works
- Handover of the possessory rights of the PPP System Works to the Private Party for Phase 2 Works
- Pay the Availability Payment (AP) to the Private Party
- Receive compensation for investment and management of the Rest Stop from the Private Party
- Receive the handover of the Project from the private party
- Return the Performance Security of the Phase 2 Works
- Return the Cash Security
- Return letter of performance security issued by the shareholder of the private party



Execution date of the

Execution date of the PPP

L

[•]

Proceed (NTP)

Notice to

Not less than [15] days Phase 1 Works: Design & Build Not exceeding 4 years from the Commencement Date

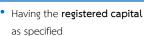
Phase 2 Works:
Operations &
Maintenance

Not exceeding 30 years from the Commercial Operation Date

Termination Date

of the PPP Contract





- Deliver a performance security for the operation of Phase 1 Work.
- Deliver a letter of performance security issued by the shareholder of the private party
- Execute the Financing
 Agreement for Phase 1 Works
 within [*] days from the date of
 signing the PPP Contract



Obtain the Project Insurance for

Phase 1 Works



- Design and Construction
- Transfer the ownership of the PPP Section Works to the DOH immediately upon completion of construction
- Transfer of knowledge and technology



- Operation and Maintenance
- Deliver Performance Security for Phase 2 Works.
- Deliver Cash Security
- Obtain the Project Insurance for Phase 2 Works
- Having the registered capital as specified
- Transfer the ownership over the PPP System Works to DOH
- Receive the Availability Payment (AP) from DOH
- Receive **revenue** from the investment and management of the Rest Stop
- Pay compensation for investment and management of the Rest Stop to DOH
- Transfer of knowledge and technology



- Handover the DOH Section Works, the PPP Section Works, and PPP System Works owned by DOH back to DOH
- Demolish all O&M Assets for the motorway, unless otherwise instructed by DOH
- Demolish all O&M Assets for the Rest Stop that the DOH does not accept the ownership transfer, unless otherwise instructed by DOH
- Warrant that the properties handover to DOH are in good working order for use for at least another 6 months







Key Summary of the Draft Public-Private Partnership Contract

Performance Security and Performance Guarantee of the Private Party



Performance Security

(1) Performance Security for the operation of Phase 1 Works

- Deliver on the PPP Contract execution date
- Return upon:
- (a) The Private Party has completed the Phase 1 works and is ready for commercial operation, and DOH has issued **the Commissioning Certificate** to the Private Party; and
- (b) The Private Party has delivered the performance guarantee for Phase 2 Works

(2) Performance Security for the operation of Phase 2 Works

- Deliver on the date that the DOH has issued the Commissioning Certificate or the Substantial Commissioning Certificate
- Return after the Private Party is released from all obligations and liabilities under the Contract

In the case that the DOH exercises its right to claim any compensation from the performance security, the Private Party shall provide additional performance security to be restored to the full amount within 15 days from the date of such claim.



Cash Security

- Cash guarantee, deposited into the account designated by DOH
- Deliver on the date DOH has issued the Commissioning Certificate or the Substantial Commissioning Certificate
- Return after the Private Party is released from all obligations and liabilities under the Contract for the remaining amount, without any interest whatsoever.

To serve as a guarantee for the performance of the Private Party's obligations in the following cases:

- (1) The Private Party does not construct and/or hand over data for the Collection of toll and/or other information used for the collection of toll in a complete and accurate manner, and resulting in a penalty
- (2) The Private Party does not repair, maintain, or rehabilitate works related to the Rest Stop

In the case that the DOH exercises its right to claim any compensation from the performance security, the Private Party shall provide additional performance security to be restored to the full amount within 15 days from the date of such claim.

Performance Guarantee of the Private Party



Issued by all shareholders of the Private Party

(to guarantee the performance of the Private Party

under the PPP Contract)

- Deliver on the PPP Contract execution date
- Return when the Private Party has been released from all obligations and liabilities under the PPP Contract







Key Summary of the Draft Public-Private Partnership Contract

Properties and Ownership of Project Infrastructure



DOH Section Works

The DOH will hand over the possessory right in respect of the DOH Section Works, whether in whole or in the substantial part thereof, to the Private Party for the Design and Construction and Operation and Maintenance.



PPP Section Works

- The Private Party must handover the ownership of **the PPP Section Works** to the DOH <u>immediately after the completion of the construction</u>, including any additional construction or modification works carried out thereafter.
- DOH will hand over the possessory rights over the PPP Section Works, whether in whole or in part, to the Private Party for the Operation and Maintenance.



PPP System Works

- The Private Party must handover the ownership of the PPP System Works, as well as any other assets procured as part of Phase 1 Works which the Private Party has funded to the DOH on the Commercial Operation Date.
- DOH will handover the possessory rights over the PPP System Works to the Private Party on the same day, such that the Private Party can then commence the operation of the Phase 2 Works.







Key Summary of the Draft Public-Private Partnership Contract

Properties and Ownership of Project Infrastructure (continue)



Operation and Maintenance Assets (O&M Assets) for the Motorway

- The Private Party must handover the ownership of the O&M Assets comprising immovable properties or structures, as well as the component parts and equipment attached to the DOH Section Works, the PPP Section Works, the PPP System Works as well as existing roadwork equipment provided in the Motorway System, in the interests of the roadwork or of the end users, to the DOH immediately after the completion of the construction or installation.
- Upon the termination of the PPP Contract, the DOH has the right to purchase **other O&M Assets** from the Private Party under a price as agreed by the Parties. In the case where the Parties fail to agree on the price, **the Book Value** of the O&M Assets shall be deemed the price agreed upon by the parties.
- The Private Party shall immediately demolish all Operation and Maintenance (O&M) Assets that the DOH does not exercise its right to purchase from the Project upon the termination of the PPP Contract, at the Private Party's own expense.



Operation and Maintenance Assets (O&M Assets) for the Rest Stop

- The ownership of the Operation and Maintenance Assets for the Rest Stop shall belong to the DOH on the termination of the PPP Contract.
- Unless the DOH notifies the Private Party prior to the termination date of the Contract of its intention not to accept the ownership transfer, the Private Party shall, at its own expense, demolish and remove such assets from the Project.







Key Summary of the Draft Public-Private Partnership Contract

Fines



- A fine at the rate of [•] ([•]) Baht per day.
- In the case where the Private Party fails to complete the design and construction works within the design and construction period (for Phase 1),
 - A fine at the rate of [(0.25)] percent of the Contract Value of the Phase 1 Works.
- In the case where the delay causes damage to the DOH and the actual damages exceed the amount of the specified penalties,
 - The Private Party agrees to compensate the DOH for the actual damages incurred.
- In case where the delay is caused by force majeure, relief event, or other causes not attributable to the fault of the Private Party, there will be no fines.
- If the total accumulated fines exceed 10% of the Contract Value of the Phase 1 Works, the DOH shall have the right to terminate the Contract and forfeit the Performance Security immediately.



Phase 1 Works:

Design and Construction



Phase 2 Works:
Operation and Maintenance

- In the case that the Private Party is unable to provide service in accordance with the Service Level Agreement and Key Performance Indicators (KPIs):
 - The Private Party shall pay the fines to the DOH in accordance with the fines' calculation criteria prescribed by the DOH.
- In the event that the Private Party does not create and/or hand over data for the Collection of toll and/or any other information used for the collection of toll in a complete and accurate manner within the period specified by the DOH, resulting in the loss of toll transaction data, incomplete or inaccurate toll transaction data, or the DOH receiving an incomplete amount of toll revenue:
 - The Private Party shall pay the fines to the DOH in an amount equivalent to the maximum toll fee.







Key Summary of the Draft Public-Private Partnership Contract

Termination of the PPP Contract

Causes of the PPP Contract Termination are as follows:

- Termination of the Contract by Operation of Laws
- **Expiration of the Contract Period**
- Termination Prior to the Expiry of Contract Period
 - Termination due to the fault of the Private Party
 - Termination due to Force Majeure or Relief Event
 - Termination due to the exercise of authority for public interest
 - Termination due to changes in laws







Key Summary of the Draft Public-Private Partnership Contract

Termination of the Contract (continue)



Termination due to the fault of the Private Party

- The DOH shall pay compensation for the value of the PPP Section Works and the PPP System Works based on the Book Value, calculated from the capital cost less accumulated depreciation according to the useful life of the assets.
- The DOH shall pay compensation for the value of **the Operation and Maintenance (O&M)** Assets only for those assets that the DOH considers beneficial and usable, based on **the Book Value** calculated from the capital cost less accumulated depreciation according to the useful life of the assets, excluding any Financing Cost.



Termination due to Force Majeure or Relief Event

During Phase 1 Works:

The DOH shall pay compensation for any expenses incurred or related to the works that the DOH considers beneficial, usable, and legally capitalizable, excluding any Financing Cost.

During Phase 2 Works:

- (1) The DOH shall pay compensation for the construction repayment, including the works of the Rest Stop, but excluding other investment costs already paid by the DOH.
- (2) The DOH shall pay the operation and maintenance payment for the works completed but not yet due for payment.
- (3) The DOH shall pay compensation for **the value of the Operation and Maintenance (O&M)** Assets, including the works of the Rest Stop, only for those assets that the DOH considers beneficial and usable, based on **the Book Value** calculated from the capital cost less accumulated depreciation according to the useful life of the assets, excluding any Financing Cost.



Termination due to the exercise of authority for public interest

If the event is not attributable to the fault of the Private Party, the compensation shall be made on a fair basis in accordance with Section 50 of the Public-Private Partnership Act, B.E. 2562 (2019).

Termination due to changes in laws

This shall be applied in the same manner as the case of termination due to Force Majeure or Relief Events.







Key Provisions of the Draft Invitation to Bid, Draft RFP and Draft PPP Contract

Remuneration Payment and Financial Proposals Preparation



Key Provisions of the Draft Invitation to Bid and Draft RFP

Pricing Documents Items 2: Rest Stop Items 1: Primary Works Part 1 Construction Cost of Phase 1 Part 1 Construction Cost of Rest Stop Part 2 Operation and Maintenance Lump Sum Cost Part 2 Operation and Maintenance Lump Sum Cost Part 3 Operation and Maintenance Re-Measurement Cost Items 3: Availability Payment, Evaluation Approach, and Payment Mechanism (Primary Works & Rest Stop)



Key Provisions of the Draft Invitation to Bid and Draft RFP

Items 1: Primary Works

Preliminary Examples

Part 1 Construction Cost of Phase 1

Examples of the Components of Construction Cost:

- Removal of Existing Structure
- Earthworks
- Subbase & Base Courses
- Surface Courses
- Structural Works
- Incidentals
- Relocation of Utilities
- Toll Collection System
- Traffic Management and Control System
- Communication Network System
- Power Distribution System
- Buildings
- Spare Parts
- System Integration Test

Part 2 Operation and Maintenance Lump Sum Cost

Examples of the Components of Operation and Maintenance Lump Sum Cost:

- Manpower Cost
- Utilities Cost
- Administration Cost
- Systems Maintenance Cost
- Civil Works Maintenance Cost
- Building Maintenance Cost

Part 3 Operation and Maintenance Re-Measurement Cost

Examples of the Components of Operation and Maintenance Re-Measurement Cost:

• Re-Measurement Cost



Key Provisions of the Draft Invitation to Bid and Draft RFP

Items 2: Rest Stop



Part 1 Construction Cost of Rest Stop

Examples of the Components of Construction Cost:

- Design and Documentation
- Rest Stop

Part 2 Operation and Maintenance Lump Sum Cost

Examples of the Components of Operation and Maintenance Lump Sum Cost:

- Manpower Cost
- Utilities Cost
- Administration Cost
- Building Maintenance Cost

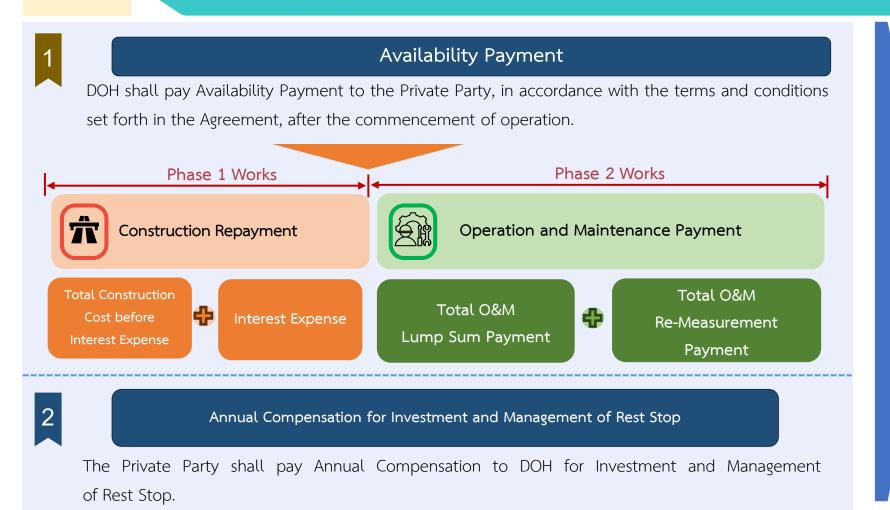




Key Provisions of the Draft Invitation to Bid and Draft RFP

Items 3

Availability Payment, Evaluation Approach, and Payment Mechanism (Primary Works & Rest Stop)



Evaluation Approach

Pricing Documents Evaluation

Approach

Payment Mechanism & Compensation Mechanism

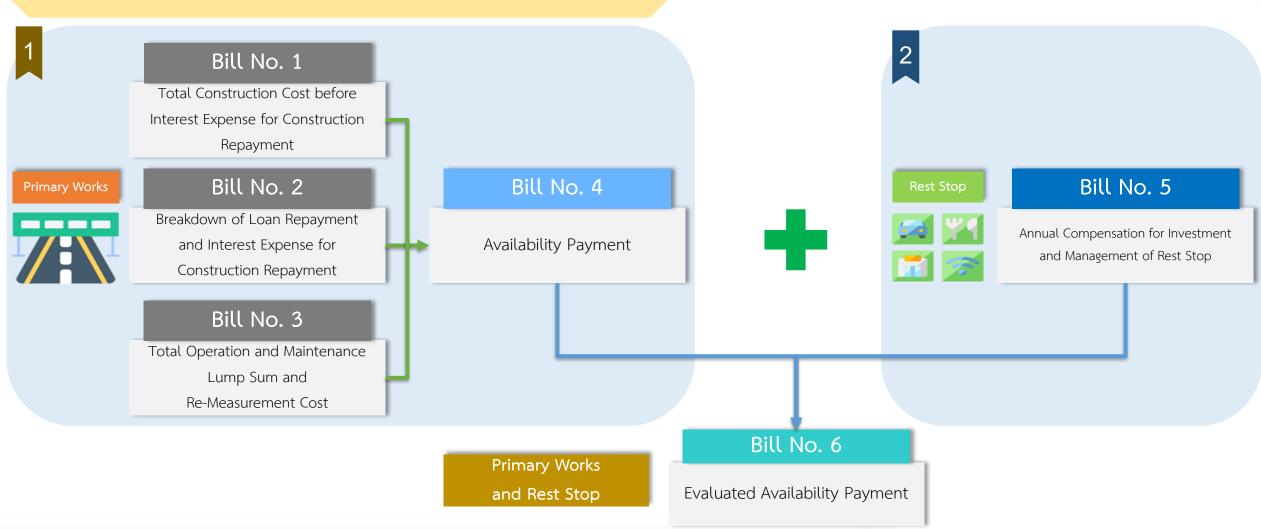
Mechanism for Availability Payment and Annual Compensation for the Investment and Management of Rest Stop.





Key Provisions of the Draft Invitation to Bid and Draft RFP

EVALUATION APPROACH







Key Provisions of the Draft Invitation to Bid and Draft RFP

EVALUATION APPROACH

Bill No. 1

Total Construction Cost before Interest Expense for Construction Repayment

Key Data Inputs

Construction Cost

01

- Financial Fee for Construction
- Interest During Construction

04

■ Repayment Period (years)

Bill No. 2

Breakdown of Loan
Repayment and Interest
Expense for Construction
Repayment

Key Data Inputs

02

- Total Loan Amount
- MLR Spread Proposed by the Bidder

1

Primary Works

Bill No. 3

Total Operation and Maintenance Lump Sum and Re-Measurement Cost

03

Key Data Inputs

- Operation Cost
- Maintenance Cost
- Margin on Operation and Maintenance Activities (%)
- Total Operation and Maintenance
 Re-Measurement Cost

Bill No. 4

Availability Payment

- Average Total Construction Cost before Interest Expense for Construction Repayment
- Interest Expense for Construction Repayment
- Construction Repayment
- Operation & Maintenance Lump Sum Payment
- Operation & Maintenance Re-Measurement Payment
- VAT 7%





Key Provisions of the Draft Invitation to Bid and Draft RFP

EVALUATION APPROACH



Primary Works and
Rest Stop

Bill No. 4

Availability Payment

04

■ Total Present Value of Availability Payment



Bill No. 5

Annual Compensation for Investment and

Management of Rest Stop

The Bidder shall specify annual compensation to DOH for each operating year.



Evaluated Availability
Payment

06

Evaluated Availability Payment = Availability Payment - Annual Compensation for Investment and Management of Rest Stop

05

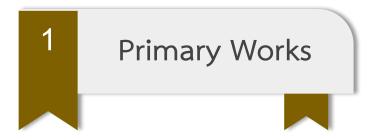
The Bidder who proposes the lowest Present Value of Evaluated Availability Payment shall be selected as the Preferred Bidder, if all other technical and legal requirements are complied.



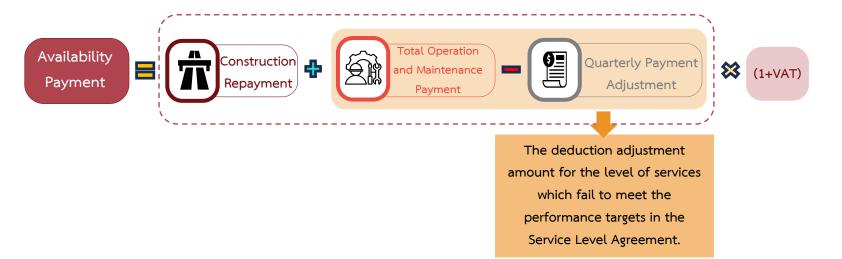


Key Provisions of the Draft Invitation to Bid and Draft RFP

Payment Mechanism & Compensation Mechanism



DOH shall pay the Availability Payment to the Private Party at the end of each quarter in O&M period.



2 Rest Stop

The Private Party shall pay
Annual Compensation to DOH
in accordance with the amount
proposed in the
Pricing Documents.





Key Provisions of the Draft Invitation to Bid and Draft RFP

Financial and Business Plan

The Bidder shall be required to prepare a business and financial plan for the implementation, which shall comprise at least the following six components:

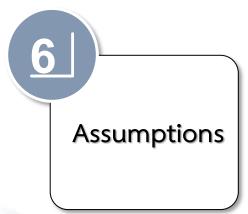
















Key Provisions of the Draft Invitation to Bid and Draft RFP

Assumptions: Primary Works

1

Topic		Assumptions
1	Discount Rate	 The discount rate of 3.00% on an annual basis shall be used in calculation of PV of availability payment and proposed annual compensation to DOH.
2	Key Financial Factor	 For the purpose of evaluation, The Bidder shall apply MLR of (6.80%) VAT of 7% in the proposed AP calculation
3	Terminal Value	 The terminal value of any investment during the entire period of the contract for the purpose of calculation of Availability Payment shall be deemed as zero or no market value or no residual value at the end of Operation and Maintenance Period
4	Payment Period	 The first Availability Payment shall be calculated at the end of fiscal quarter (three months period) after the Commercial Operation Date and every quarter thereafter throughout the Operation and Maintenance Period of 30 years.





Key Provisions of the Draft Invitation to Bid and Draft RFP

Assumptions: Rest Stop

2

Topic Assumptions Investment The bidder shall bear the cost of investment cost and O&M expenses during the project period cost and • Dissimilar to the Primary Works, No Availability Payment shall be **0&M** received from DOH expenses The bidder shall have the right to manage the retail area of around 240 sq.m. for the commercial use **Project** • The bidder shall generate its revenue by leasing 240 sq.m. to Revenue retailer(s) The bidder shall pay annual compensation to DOH at the beginning of each Operating Year Compensation The first payment shall be made at the beginning of the 1st year of to DOH the O&M period but not later than the beginning of the 5th year of the project period **Penalties** Late payment Under target(s) of Service Level Agreement







Key Provisions of the Draft Invitation to Bid, Draft RFP, and Draft PPP Contract

Guidelines for PPP Proposals Submission







Key Provisions of the Draft Invitation to Bid and Draft RFP

Qualifications of Bidders

General Qualifications



Litigation History

Financial Qualifications

- ★ The private entity shall be as defined in the Public-Private Partnership Act
- **★** Company registration: ≥ x years
- ★ In case of a joint venture/consortium, the following is required:
 - The lead partner shall be a Thai entity, with shareholding $\geq x\%$
 - Each corporate member shall maintain a minimum shareholding of $\geq x\%$
 - Total shareholding of all the Thai entities combined shall maintain a minimum of ≥ x%
- ★ A foreign entity shall form a group with a Thai entity to constitute a joint venture/consortium.
- ★ The bidder shall not have a direct or indirect interest, through the following relationships:
 - 1) Management Relationship: (where a single person is a manager, managing partner, managing director, executive, or authorized operator in the business of another person or multiple entities submitting proposals at the same time).
 - 2) Capital Relationship: (where one person is a major partner or major shareholder in another entity or multiple entities submitting proposals at the same time. A major shareholder means a shareholder holding ≥ 25% of shares in that business).
 - 3) Cross-Relationship: A cross-relationship between item (1) and item (2).
 - 4) The holding of a position, partnership, or shareholding by the spouse or minor child of any person referred to in (1), (2), or (3).
- ★ Provision of guarantees and support for loans issued by Thai commercial banks or foreign banks with branches in Thailand
- ★ Not having the Thai Court's special privileges or immunity that exempt them from being brought before a Thai court







Key Provisions of the Draft Invitation to Bid and Draft RFP

Qualifications of Bidders

General Qualifications

Litigation History



- ★ History of litigation or disputes in arbitration proceedings within the past years:
 - that have reached a final resolution; or
 - that are currently pending resolution
- Not being a private entity or an individual deemed unsuitable to participate in a Public-Private Partnership as prescribed in the PPP Policy Committee's Notification.

Financial Qualifications







Key Provisions of the Draft Invitation to Bid and Draft RFP

Qualifications of Bidders

General Qualifications

Litigation History

Financial Qualifications



- ★ A single entity and all members of a joint venture/consortium shall present the evidence showing its annual net worth over the last x years, with average value being positive.
- ★ Providing proof of certification and support for a Line of Credit in the amount not less than that specified.







Key Provisions of the Draft Invitation to Bid and Draft RFP

Qualifications of Bidders

General Qualifications

Litigation History

Financial

Qualifications



- ★ Experiences and work achievements shall include:
 - Construction or Civil Works Management (Transportation Infrastructure)
 - Systems Procurement or Installation (Toll Road)
 - Operation and Maintenance (Toll Road)
- ★ An evaluation will take the following into account:
 - whether the experience record submitted is completely finished or currently underway
 - whether the experience record submitted is a domestic or foreign project executed for a public sector
 - the experience record where the bidder acted as a subcontractor to a private entity contracted with a public sector
 - For the experience record under a joint venture or consortium, the bidder shall demonstrate a proportional responsibility for the work that amounts to a value not less than that stipulated.





Q & A

Your comments and feedback are welcome via www.doh.go.th and www.doh-motorway.com or the project's email: pppm5.project@gmail.com from November 6 to 12, 2025