For discussion
on 20 December 2013

Legislative Council Panel on Transport

The Vehicles and Drivers Licensing Integrated Data System Infrastructure Enhancement Project of the Transport Department

PURPOSE

This paper seeks Members' views on the proposal to enhance the infrastructure of the Vehicles and Drivers Licensing Integrated Data System IV (VALID IV System) of the Transport Department (TD) for meeting the operational needs by extending the service life of the System and enhancing its performance.

BACKGROUND

2. The VALID IV System was developed starting from 2003 and came into operation in 2007. It is an integrated computerised information system to support vehicle and driving licensing services such as registration of vehicles; issue and renewal of vehicle licences and permits; issue and renewal of driving licences and permits; arrangement of driving tests; and reservation, retention and assigning of vehicle registration marks. The number of licensing transactions in 2012 amounted to 2 847 000 with the major licensing services highlighted as follows:

	Number of Transactions
(a) Issue and Renewal of Vehicle Licences	754 000
(b) Issue and Renewal of Driving Licences	284 000
(c) Transfer of Ownership of Vehicles	168 000
(d) Arrangement of Driving Tests	131 000
(e) Issue of International Driving Permits	112 000
(f) Retention of Vehicle Registration Marks	98 000
(g) Change of Particulars of Drivers	84 000
(h) Assigning of Vehicle Registration Marks	76 000
(i) Issue of Duplicates of Driving Licences	17 000

3. The existing maintenance contract of the VALID IV System will expire in September 2017. The hardware and software of the System have also become outdated gradually which limit its ability to keep up with the increasing demand for existing services and cope with future demands. In particular, some of the system software (such as operating systems, application and web server software) and the database software that the VALID IV System is using have already reached the end of their service life and service support for security patches is no longer available. Hence, there is a need for TD to look into the further development of the VALID IV System to ensure that it can cope with future demands and service enhancement.

PROPOSAL

4. It is of utmost importance to maintain an effective and efficient system for the provision of licensing services to the public. With the support of the Government Chief Information Officer, we propose to enhance the infrastructure of the VALID IV System at an estimated cost of $71,284,000 to extend its service life and enhance the system performance.

JUSTIFICATIONS

5. TD commissioned a technical consultancy study in September

2012 to review the existing infrastructure design of the VALID IV System and identify possible areas of improvements. The study revealed that the current infrastructure design of the VALID IV System, which is a component-based architecture with an open and scalable framework, is still a commonly adopted design and should be sustainable in the foreseeable future. Nevertheless, the ageing hardware and software may not be able to support the increasing business demands and future operational needs. It is also expected that with ageing hardware and software, unplanned downtime of the VALID IV System might increase which will reduce its compatibility, reliability and availability. With no service support for the outdated software and no spare parts for the aged hardware, we may not be able to secure comprehensive maintenance coverage for the VALID IV System upon the expiry of the current 10-year maintenance contract in September 2017.

6. In late 2012, TD also studied new business needs and planned implementation of information technology systems that would interface with the VALID IV System. It was revealed that the existing performance and functionality of the VALID IV System were still able to satisfy the service needs in general, and there was no major new user requirement requiring total replacement of the VALID IV System.

7. The findings in paragraphs 5 and 6 above show that the existing infrastructure design of the VALID IV System is still commonly adopted in the market and there is no major operational need to redevelop the whole system which would entail a non-recurrent expenditure of about $220,000,000. We therefore propose to enhance the infrastructure of the VALID IV System by replacing the ageing hardware and software with updated ones, and aligning with the latest technologies so as to ensure continuity of service of the VALID IV System. It is expected that with the enhanced infrastructure, the service life of the VALID IV System will be extended by about ten years.

ANTICIPATED BENEFITS

8. The proposal will bring about enhancements in the following areas:

(a) System sustainability

Timely replacement of the ageing hardware and software will ensure the continuity of the VALID IV System in providing reliable vehicle and driving licensing services to the public.

(b) Business capability

The capacity and performance of the VALID IV System will be improved with the adoption of new/updated technology. This will enable us to cope with the increasing service demands and respond more speedily to new initiatives for meeting operational needs.

(c) System security

With upgrading/replacement of the outdated software, up-to-date security patches can be applied to continue safeguarding the VALID IV System.

(d) End User Computing Tool[1] for management reporting

The aged End User Computing Tool for statistical report extraction will be replaced with the latest version which is more user-friendly and efficient.

(e) Availability of TD e-services to the public

The enhanced VALID IV System will adopt the latest technology to minimise service suspension caused by scheduled maintenance. This will also improve the availability of those TD e-Services to the public which require access to the System such as application for renewal of vehicle and driving licences, booking for driving tests, and reservation of traditional/personalised vehicle registration marks, etc.

[1] End User Computing Tool enables users to enquire information and generate reports from the VALID IV System upon request.

FINANCIAL IMPLICATIONS

Non-recurrent Expenditure

9. We estimate that the total non-recurrent expenditure of the proposal will be $71,284,000 over four years from 2014-15 to 2017-18, with the breakdown as follows:

		$'000
(a)	Hardware	19,714
(b)	Software	11,903
(c)	Communication Network	1,092
(d)	Implementation Services	23,561
(e)	Site Preparation	2,750
(f)	Training	280
(g)	Consumables	359
(h)	Accommodation	3,645
(i)	Assessment Services	1,500
(j)	Contingency (10%)	6,480
	Total	**71,284**

10. As regards paragraph 9(a) above, the estimate of $19,714,000 is for the acquisition of computer hardware including servers, Storage Area Network storage and backup tape solution, network equipment, etc.

11. As regards paragraph 9(b) above, the estimate of $11,903,000 is for the acquisition of software licences for servers (web, application and database), including operating systems, application and web server software, database management system, report server software, system administration and monitoring software, etc.

12. As regards paragraph 9(c) above, the estimate of $1,092,000 is for the subscription of required network bandwidth.

13. As regards paragraph 9(d) above, the estimate of $23,561,000 is for the acquisition of service from an external service provider to implement the project including overall project management,

infrastructure design and setup, system migration, programme migration, data conversion, and user acceptance tests (UAT) support, etc.

14. As regards paragraph 9(e) above, the estimate of $2,750,000 is for the site preparation work in Primary Data Centre, Secondary Data Centre, Development and UAT site.

15. As regards paragraph 9(f) above, the estimate of $280,000 is for the acquisition of training services on the new End User Computing Tool as well as the system operation of the new environment.

16. As regards paragraph 9(g) above, the estimate of $359,000 is for the acquisition of start-up consumables such as printer consumables and tapes for system backup.

17. As regards paragraph 9(h) above, the estimate of $3,645,000 is for the provision of office space for the external service provider and users for carrying out the project implementation and UAT respectively.

18. As regards paragraph 9(i) above, the estimate of $1,500,000 is for carrying out the Privacy Impact Assessment and Security Risk Assessment to identify possible privacy and security risks and recommend corresponding remedial measures before system rollout.

19. As regards paragraph 9(j) above, the estimate of $6,480,000 represents a 10% contingency on the items set out in paragraph 9(a) to (i).

20. The estimated cash flow requirements between 2014-15 and 2017-18 are as follows:

Year	**$'000**
2014-15	990
2015-16	2,626
2016-17	25,374
2017-18	42,294
Total	**71,284**

Non-recurrent Staff Cost

21. A project team will be set up in TD for implementation of the proposal, including tendering, project management, support for system analysis and design, conducting UAT, etc. The project team will entail a total non-recurrent staff cost of about $27,600,000 from 2014-15 to 2017-18. The cost will be met from within existing resources.

Recurrent Expenditure

22. We estimate that the recurrent expenditure arising from the project will be $6,761,000 in 2017-18 and will increase to $24,941,000 per annum from 2018-19 onwards, with the breakdown as follows:

	2017-18 $'000	**2018-19 and onwards $'000**
(a) Hardware and Software	-	6,814
(b) On-going Support Services	-	8,540
(c) Communication Network	1,124	1,253
(d) Staff Cost	5,393	8,090
(e) Consumables	244	244
Total	**6,761**	**24,941**

23. As regards paragraph 22(a) above, the estimate of $6,814,000 is for the maintenance of system hardware and software licence renewal to support the new infrastructure.

24. As regards paragraph 22(b) above, the estimate of $8,540,000 is for on-going system maintenance and support, helpdesk services, and minor application enhancements, etc.

25. As regards paragraph 22(c) above, the estimate of $1,253,000 is for the subscription of Wide Area Network links across data centres and TD offices, on-going network maintenance and support of the TD network.

26. As regards paragraph 22(d) above, the estimate of $8,090,000 is staff cost for day-to-day system monitoring and handling of on-going enhancements on the enhanced VALID IV System.

27. As regards paragraph 22(e) above, the estimate of $244,000 is for consumable expenses including tapes for system backup, printer consumables, etc.

28. It is estimated that the annual recurrent expenditure arising from the project will be $6,761,000 in 2017-18 and will increase to $24,941,000 in 2018-19. Taking into account the fact that the annual recurrent maintenance and operational costs of the existing VALID IV System is $15,802,000, the proposal will require a net increase in recurrent expenditure of $9,139,000 per annum from 2018-19 onwards. The relevant costs will be met from within existing resources.

IMPLEMENTATION PLAN

29. We plan to start the implementation of the project in the first half of 2014 for completion by the third quarter of 2017. The proposed implementation plan is set out below:

Activity	**Target Completion Date**
(a) Preparation of tender documents and invitation of tender	January 2015
(b) Tender evaluation and contract award	October 2015
(c) Project implementation	
– System design	April 2016
– System implementation and UAT	May 2017
– System live-run	August 2017

WAY FORWARD

30. Subject to Members' views, we will seek funding approval from the Finance Committee of Legislative Council in early 2014 before proceeding with the project as planned.

ADVICE SOUGHT

31. Members are invited to provide comments on and support the proposal.

Transport Department
Transport and Housing Bureau
December 2013