

Ashton, Marion TRAN:EX

From: Paton, Susan TRAN:EX
Sent: Tuesday, November 25, 2014 9:28 AM
To: Mueller, Paula TRAN:EX
Cc: Volk, Kevin TRAN:EX; Smith, Sheila M TRAN:EX; Storm, Ed TRAN:EX; Kelch, Kyla MNGD:EX; Kersten, Karina AGRI:EX
Subject: FW: FOR APPROVAL: #231150 - Independent Review of SkyTrain Service Disruptions Nov 19-2014Edits
Attachments: 231150_IBN_MTS_Independent Review of SkyTrain Service Disruptions.docx

Good morning, Paula

Here is the BN prepared by Transit Branch for the Minister's information regarding Independent Review of SkyTrain Service Disruptions.

It is logged under 231150 and active in your office.

In addition to Jacquie Dawes, Debbie Fritz (on behalf of Nancy Bain) has approved.

Thank you,

Susan Paton

Manager, Divisional Operations
Finance and Management Services
Ministry of Transportation and Infrastructure
Phone: 250-387-3100

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Thank you.

From: Kersten, Karina TRAN:EX
Sent: Friday, November 21, 2014 9:18 AM
To: Paton, Susan TRAN:EX
Cc: Mueller, Paula TRAN:EX; Volk, Kevin TRAN:EX; Smith, Sheila M TRAN:EX; Storm, Ed TRAN:EX
Subject: FW: FOR APPROVAL: #231150 - Independent Review of SkyTrain Service Disruptions Nov 19-2014Edits

Hi Susan,

Please find enclosed BN for Nancy's approval before going to DMO as per our new BN templates/procedure.
Thank you,

Karina

From: Dawes, Jacquie TRAN:EX
Sent: Thursday, November 20, 2014 9:29 PM
To: Kersten, Karina TRAN:EX

Cc: Volk, Kevin TRAN:EX; Smith, Sheila M TRAN:EX; Storm, Ed TRAN:EX
Subject: RE: FOR APPROVAL: #231150 - Independent Review of SkyTrain Service Disruptions Nov 19-2014Edits

approved

From: Kersten, Karina TRAN:EX
Sent: Thursday, November 20, 2014 10:57 AM
To: Dawes, Jacquie TRAN:EX
Cc: Volk, Kevin TRAN:EX; Smith, Sheila M TRAN:EX; Storm, Ed TRAN:EX
Subject: FOR APPROVAL: #231150 - Independent Review of SkyTrain Service Disruptions Nov 19-2014Edits

Hi Jacquie,

Please find enclosed updated BN for your approval. Please note that we have a new template that states the financial impacts and in case there is financial impact the BNs will have to be signed off by Nancy Bain as well.
Thanks,

Karina

From: Storm, Ed TRAN:EX
Sent: Thursday, November 20, 2014 10:44 AM
To: Kersten, Karina TRAN:EX
Cc: Smith, Sheila M TRAN:EX
Subject: RE: #231150 - Independent Review of SkyTrain Service Disruptions Nov 19-2014Edits

Karina,

Thanks for catching the Financial Implication section. I've defined CCTV the first time used, to address your question, and took the last paragraph of the discussion section and moved it into the financial implications section to meet the new format requirements.

Ed

From: Kersten, Karina TRAN:EX
Sent: Thursday, November 20, 2014 9:36 AM
To: Smith, Sheila M TRAN:EX
Cc: Volk, Kevin TRAN:EX; 'Ed Storm'
Subject: RE: #231150 - Independent Review of SkyTrain Service Disruptions Nov 19-2014Edits

Hi Sheila,

I have put the BN in the new format and added the financial impacts section and inserted a comment. Please have it reviewed again if it is still correct.

Thanks,

Karina

From: Smith, Sheila M TRAN:EX
Sent: Thursday, November 20, 2014 6:59 AM
To: Kersten, Karina TRAN:EX
Cc: KevinVolk; Ed Storm
Subject: #231150 - Independent Review of SkyTrain Service Disruptions Nov 19-2014Edits

Hi Karina:

Attached please find the updated INFO bn which reflects new costs announced by TransLink. Please have PADM review and approve then onto DMO's.

Thank you
Sheila



BRIEFING NOTE FOR INFORMATION

DATE: November 18, 2014
PREPARED FOR: Minister of Transportation and Infrastructure
ISSUE: Independent Review of SkyTrain Service Disruptions (TransLink)

SUMMARY:

- In response to two lengthy SkyTrain service delays in July 2014, TransLink commissioned an independent review of its response plans and procedures.
- The review found that SkyTrain provides a safe and reliable service.
- The review makes 20 recommendations to enhance safety, reduce the chance of future incidents, and enable SkyTrain to resume full service more quickly if incidents occur.
- TransLink has committed to acting on all of the consultant's recommendations, which have a preliminary estimated capital cost of \$70 million.
- As the Province owns much of the SkyTrain system, TransLink might request the Province to share in the cost of implementing some recommendations (no request has been made).

BACKGROUND:

SkyTrain is fully automated and uses a computerized train control and operations system. When the system loses communications with trains or detects possible intrusions on the guideway, trains are automatically stopped until the incident is addressed. Since service started in 1986, SkyTrain has had an excellent passenger safety record.

On July 17 and 21, 2014, the SkyTrain system had major disruptions, each with 5-6 hour service delays. During the delays, passengers exited trains without authorization and thousands more had to find alternate means of transportation. Limited information was provided to passengers, resulting in a poor overall experience.

In response, TransLink initiated an independent review by Gary McNeil (former head of Toronto's GO Transit) of its SkyTrain operating, maintenance, customer service, and communications procedures. The McNeil report, completed on November 14, 2014, found the following:

- The initial causes of the delays were not related, but the reasons for their long duration and impact on customers were related and included lack of redundancy in critical systems, lack of protocols to cover major disruptions, communications breakdowns, and limitations in the SkyTrain automatic train control system that required train information to be manually re-entered before service could resume.
- SkyTrain is safe, reliable, and cost-effective. On-time performance is comparable to peer systems such as Toronto and San Francisco.
- Reliability could be even higher if improved technology is used for SkyTrain's guideway intrusion detection system. The current system generates many "false alarms", each of which can cause minor delays and contribute to a perception of general unreliability.

The report makes 20 recommendations for improvements to enhance safety, reduce the frequency of service disruptions in future, and improve incident response and recovery times and communications with passengers. Improvements, which the McNeil report estimated would have a capital cost of \$70 million if carried out in full, include:



- To reduce incidents: Install redundant components for critical systems, modify operating and maintenance rules and procedures and update manuals, upgrade guideway intrusion detection systems to reduce “false alarms”, and decouple important systems to avoid compounding issues;
- To improve operational response to delays and speed recovery: Install an automatic re-start component to the train control system, install system-wide Closed Circuit TV (CCTV) coverage so issues can be visually identified from the Control Centre, increase front-line staff and distribute them throughout the system for faster response, introduce a single emergency radio band for communications among all TransLink operating groups and set up an alarm based warning system to alert supervisors;
- To improve communications: Upgrade the passenger address system to make it easier for people to hear messages, install programmable messaging signboards and speakers outside stations to alert people and provide information, increase visibility of front-line staff, strengthen the resiliency of TransLink’s phone system and webpage so systems are not overwhelmed, and add messaging on buses to alert riders of issues before they board or arrive at SkyTrain stations; and
- To improve safety: Install low-profile lighting along walkways to direct passengers to the nearest stations when it is dark.

A summary of recommendations, costs, and benefits is attached. Recommendations are interrelated, and the report notes that it may be possible to defer some actions if others are taken.

DISCUSSION:

TransLink provided a public response to the McNeil report on November 18, 2014. TransLink has accepted all recommendations and will move forward with improvements over the next 5 years. TransLink is developing detailed plans and budgets for the improvements, which will refine the preliminary capital cost estimate of \$70 million. Some improvements are already budgeted for and others will be funded by re-prioritizing other capital spending. Where possible, TransLink will look for more cost effective ways to implement recommendations.

Most SkyTrain assets are owned by the Province, but some are owned by TransLink. The Province owns all guideways and stations. TransLink owns most, but not all, vehicles. On the Millennium Line, the Province owns certain control centre equipment, CCTV cameras, and the “Guideway Intrusion Monitoring System”. On the Expo Line, certain control centre and radio equipment, the “Platform Intrusion Emergency Stop System”, and the CCTV camera systems were transferred to TransLink. Both the Expo Line OIC and the Millennium Line Use Agreement require the Province to “share in the cost of ... refurbishment or replacement” of provincial assets that have reached the end of their useful lives and to “negotiate in good faith to achieve an appropriate cost-sharing agreement”.

FINANCIAL IMPLICATIONS:

s.13,s.17

Attachment: Summary of Independent Review Recommendations

PREPARED BY:

Ross Long, Transit Analyst /
Ed Storm, Manager TransLink Initiatives
Transit Branch
(250) 356-1566

REVIEWED BY:

Kevin Volk, Director
Transit Branch
Jacquie Dawes, ADM
Partnerships Department
Nancy Bain, EFO
Finance and Management Services
Department

INITIALS:

KV

JD

DF

On behalf of N. Bain



Attachment:

SUMMARY OF INDEPENDENT REVIEW RECOMMENDATIONS

Recommendation	Estimated Capital Cost (& Time to Implement)	Potential Benefits				
			Reduce Number of Delays	Improve Response to and Reduce Duration of Delays	Improve Customer Communications	Safety
Install programmable messaging boards and PA speakers at station entrances	\$15 M (48 months)	Improve communications with customers			√	
Improve quality of PA systems on trains and in stations	\$15 M (60 months)	Improve communications with customers			√	
Upgrade guideway intrusion detection systems	\$10 M (24 months)	Reduce number of service delays due to "false alarms"	√			
Install automatic restart component to the train control system (SELTRAC)	\$5 M (36 months)	Significantly speed recovery from lost communications between trains and control centre		√		
Install back-up systems for critical elements	\$5 M (30 months)	Reduce likelihood and duration of delays from failure of critical systems	√	√		
Install system-wide CCTV coverage	\$5 M (24 months)	Visually monitor guideway activity during system incidents and when intrusion alarms occur		√		
Include platform edge CCTV coverage at stations						
Install low-profile lighting system along guideway walkways	\$5 M (30 months)	Facilitate evacuation of passengers from trains when light levels are low				√
Increase front-line staffing on SkyTrain and redeploy staff throughout the system	\$1 M annual operating cost (6 months)	Reduce staff response times to possible incidents and delays		√		
Decouple important systems	\$6 M (48 months)	Reduce likelihood that failure of one system will impact others	√	√		
Introduce a single emergency radio band for all TransLink's operating groups	\$1 M (8 months)	Provide a single communications channel to reduce response times		√		
Create & update operating and maintenance manuals	\$2 M (24 months)	Transfer knowledge to new staff		√		
Strengthen resiliency of Call Centre phone system and TransLink webpage	\$0.5 M (12 months)	Increase capacity of systems to process calls / inquiries during delays			√	
Set up audible alarm for management and supervisory personnel	\$0.5 M (6 months)	Make supervisory staff immediately aware of incidents through audible alarms on their phones		√		
Allow staff to drive a train to the nearest station with passengers on board	Nominal (2 months)	Avoid delay from evacuating trains before moving them		√		
Work on critical components to be done only when SkyTrain not in service	Nominal (Completed)	If failures occur, will not affect passengers	√			
Communicate that windows may be opened on some trains	Nominal (Completed)	Reduce desire for passengers to evacuate from trains		√	√	
Increase visibility of frontline staff	Nominal (2 months)	Make staff more recognizable when incidents occur		√	√	
Establish communications protocols with municipalities and first responders	Nominal (6 months)	Improve coordination of responses to emergencies		√	√	
Introduce messaging on buses to communicate delays	Nominal (3 months)	Inform riders of delays before they board or arrive at SkyTrain stations			√	