

Transportation Services Department Rail Activation Management Program (RAMP)

Final Report to Program Management Team

RAMP Status as of July 17, 2019



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Status Definitions

- ✓ Item is complete – it is expected that no further reporting will be required.
- Item is on the original schedule or on a credible recovery schedule that enables achievement of the revenue service date; and, there are no quality /effectiveness issues of concern without a plan in place to address them.
- There is deviation from the schedule, recovery required ; and/or, there are quality/effectiveness issues of concern that will be difficult to address; executive support or decision-making may be required .
- Not yet applicable.



10 Critical Elements

#	Element	Status	Comments
1	Vehicles (34)	■	Platform edge camera view & missions
2	Station Occupancy Permits (13)	■	Missing 9 elevator licenses
3	Tunnel Ventilation System (TVS)	■	
4	TOCC / SCADA	■	
5	Power / Catenary	■	
6	Safety Assurance	■	
7	CBTC	■	Final software patch required for station hold issue
8	Practice Plan	■	
9	Maintenance Readiness & Winter Operations	■	
10	Integrated Project Close-Out Execution	■	



Go / No Go List

■ On track with demonstrated progress on criteria; not expected to prevent the system from opening on the current scheduled date ("Go")

■ Off track; significant possibility that this will prevent the system from opening on the current scheduled date ("No Go")

Theme	Criteria for Start of Service	Status	Comments
Safety	No outstanding safety defects	■	depending on Alstom update (■)
	No reliability issues that degrade safe operation	■	
People	Staff & stakeholders: Fully mobilized	■	Conditional on RTM Letter (■)
Guideway	Civil and Class 5 track work: 100%	■	• Tamping • speed restriction
	Bus network and bus loops fully functional	■	
Stations	No major impacts to customer experience	■	Elevators
	Fire systems: 100%	■	
	Lighting systems: 100%	■	
	Elevators & escalators: 100%	■	Elevators
Vehicles	Thirty-four trains including Bill of Sale	■	HVAC (AC)
	Trains ready as per <i>Vehicle Minimum Operating Standard</i>	■	
Systems	No major impacts to customer experience	■	
	Radio; tunnel ventilation system, train control, and traction power are 100% operational	■	Train control – Thales
	System performance during Trial Running is sufficiently robust/resilient to absorb service impacts	■	Thales
Maintenance	Contractual requirements fulfilled, RTM mobilized	■	RTM Letter

1. Vehicles

Overall	<ul style="list-style-type: none"> 34 LRVs Safety Certified by Thales Type Test TD08 indicates non-compliance with interior noise levels. OLRT-C re-assessing : - mitigate or request relief Work Completed; HPU, Calipers, NVR, Doors, HVAC, PA/PIS/HSDR, roof arches, mudflaps, cabdoor/wipers – City audit occurring July 19th HSDR requires re-test (Scheduled for July 17) 				
	OLRT Ph	Availability Status	DF/CO	Result Level 1	Test Adaptation
	✓		✓	✓	■
	N/A				N/A
LRV 1	✓		✓	✓	■
LRV 2	N/A				N/A
LRV 3	✓		✓	✓	■
LRV 4	✓		✓	✓	■
LRV 5	✓		✓	✓	■
LRV 6	✓		✓	✓	■
LRV 7	✓	■	✓	✓	■
LRV 8	N/A		✓		N/A
LRV 9	✓	■	✓	✓	■

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1. Vehicles (cont'd)

	DLRT PA	Avail status	DPICO	Regent Config 2	Final compliance
LRV 10	✓	■	✓	✓	■
LRV 11	✓	■	✓	✓	■
LRV 12	✓	■	✓	✓	■
LRV 13	✓	■	✓	✓	■
LRV 14	✓	■	✓	✓	■
LRV 15	✓	■	✓	✓	■
LRV 16	✓	■	✓	✓	■
LRV 17	✓	■	✓	✓	■
LRV 18	✓	■	✓	✓	■
LRV 19	✓	■	✓	✓	■
LRV 20	✓	■	✓	✓	■
LRV 21	✓	■	✓	✓	■
LRV 22	✓	■	✓	✓	■
LRV 23	✓	■	✓	✓	■
LRV 24 ¹	✓	■	✓	✓	■










1. Vehicles (cont'd)

	Client PA	Avail- able	Direct	Revised Early 1	Final Acceptance
LRV 25	✓	■	✓	✓	■
LRV 26	✓	■	✓	✓	■
LRV 27	✓	■	✓	✓	■
LRV 28	✓	■	✓	✓	■
LRV 29	✓	■	✓	✓	■
LRV 30	✓	■	✓	✓	■
LRV 31	✓	■	✓	✓	■
LRV 32	✓	■	✓	✓	■
LRV 33	✓	■	✓	✓	■
LRV 34	✓	■	✓	✓	■
LRV 35 (02)	✓	■	✓	✓	■
LRV 36 (08)	✓	■	✓	✓	■



2. Occupancy permits

Stations – East		Status
Blair		Occupancy permit issued by BCS Mar 19/19 conditional on adhering to the following 5 conditions prior to being able to open for public: 1) Construction related elements including additional verification / process to be satisfied (OFS, TSSA, etc.); 2) Items such as site hoarding, site cleanliness to be resolved; 3) Floors, halls, lobbies and required means of egress are to be free of loose materials and other hazards; 4) escalators are to remain in a stopped position until approval granted in writing by BCS and TSSA; 5) A final inspection is to be arranged for the 4 outstanding non-occupancy related deficiencies.
Cyrville		Occupancy permit issued by BCS Mar 19/19 conditional on adhering to the following 4 conditions prior to being able to open for public: 1) Construction related elements including additional verification / process to be satisfied (OFS, TSSA, etc.); 2) items such as site hoarding, site cleanliness to be resolved; 3) Floors, halls, lobbies and required means of egress are to be free of loose materials and other hazards; 4) A final inspection is to be arranged for the 1 outstanding non-occupancy related deficiency.
St. Laurent		Occupancy permit issued by BCS Apr 2/19 conditional on adhering to the following 5 conditions prior to being able to open for public: 1) Construction related elements including additional verification / process to be satisfied (OFS, TSSA, etc.); 2) items such as site hoarding, site cleanliness to be resolved; 3) Floors, halls, lobbies and required means of egress are to be free of loose materials and other hazards; 4) Escalators are to remain in a stopped position; 5) A final inspection is to be arranged for the 1 outstanding non-occupancy related deficiency.
Tremblay		Occupancy permit issued by BCS Mar 19/19 conditional on adhering to the following 4 conditions prior to being able to open for public: 1) Construction related elements including additional verification / process to be satisfied (OFS, TSSA, etc.); 2) items such as site hoarding, site cleanliness to be resolved; 3) Floors, halls, lobbies and required means of egress are to be free of loose materials and other hazards; 4) A final inspection is to be arranged for the 4 outstanding non-occupancy related deficiencies.
Hurdman		Occupancy permit issued by BCS Mar 20/19 conditional on adhering to the following 5 conditions prior to being able to open for public: 1) Additional verification process to be satisfied (OFS, TSSA, etc.); 2) Items such as site hoarding, site cleanliness to be resolved; 3) escalators are to remain in a stopped position until approval granted in writing by BCS and TSSA; 4) Floors, halls, lobbies and required means of egress are to be free of loose materials and other hazards; 5) A final inspection is to be arranged for the 5 outstanding non-occupancy related deficiencies.
Lees		Occupancy permit issued by BCS Mar 19/19. Additional inspection carried out June 27 note "Previous noted occupancy conditions are resolved with respect to Building Code Services involvement". There are still non-occupancy related deficiencies. Note – OFS requires updated Mechanical and Electrical Code Conformance Letters (CCLs) by Professionals of record.
uOttawa		Occupancy permit issued by BCS Mar 19/19. Additional inspection carried out June 27 note "Previous noted occupancy conditions are resolved with respect to Building Code Services involvement". There are still non-occupancy related deficiencies. Note – OFS requires updated Mechanical and Electrical Code Conformance Letters (CCLs) by Professionals of record.

2. Occupancy Permits (cont'd)

Stns – Tunnel and West		Status
Rideau	■	Occupancy permit issued by BCS on April 29/19 conditional on adhering to the following 5 conditions prior to being opened to the public: 1) The OLRT system requires additional verification/process to be satisfied (OFS, TSSA, etc.), 2) removal of the following items; trailer at the East entrance; construction fencing (East entrance & platforms); temporary signage @ elevator(s), 3) site cleanliness (presence of construction material, tools, tarps, etc.) 4) Escalators ESRI 13 & 14 to be running prior to the station opening for revenue service (i.e. prior to public access to the station) & remain operational in conformance with the alternative solution requirements specific to these two escalators, 5) Fire alarm system demonstrations noted are completed. There are still non-occupancy related deficiencies. Note – OFS requires updated Mechanical and Electrical Code Conformance Letters (CCLs) by Professionals of record.
Parliament	■	Occupancy permit issued by BCS on April 10/19 Additional inspection carried out July 5 th identifying following remaining items prior to open for public: 5) Fire shutter at Sun Life to remain in closed position; 6) Final inspection to be arranged for . There are still non-occupancy related deficiencies. Note – OFS requires updated Mechanical and Electrical Code Conformance Letters (CCLs) by Professionals of record.
Lyon	■	Occupancy permit issued by BCS on April 8/19 Additional inspection carried out June 28 th confirming permit conditions for occupancy have been addressed. There are still non-occupancy related deficiencies. Note – OFS requires updated Mechanical and Electrical Code Conformance Letters (CCLs) by Professionals of record.
Pimisi	■	Occupancy permit issued by BCS on Feb 27/19 Additional inspection carried out June 28 th confirming permit conditions for occupancy have been addressed. There are still outstanding non-occupancy (C.1.3.3.) related items to be re-inspected. Note – OFS requires updated Mechanical and Electrical Code Conformance Letters (CCLs) by Professionals of record.
Bayview	■	Occupancy permit issued by BCS on Mar 12/19 Additional inspection carried out July 5 th confirming permit conditions for occupancy remain: 1) All construction hoarding and fencing is to be removed; 2) Construction trailers are to be removed in a timely fashion; 3) All floor, halls, lobbies and required means of egress are to be free of loose materials and other hazards; 5) Final inspection to be arranged. The 6 Outstanding non-occupancy (C.1.3.3.) related items to be re-inspected. Note – OFS requires updated Mechanical and Electrical Code Conformance Letters (CCLs) by Professionals of record.
Tunney's Pasture	■	Occupancy permit issued by BCS Mar 27/19 Additional inspection carried out July 5 th confirming permit conditions for station occupancy have been addressed. There are still outstanding non-occupancy (C.1.3.3.) related items to be re-inspected. Note – OFS requires updated Mechanical and Electrical Code Conformance Letters (CCLs) by Professionals of record.
Bus loop/buildings	■	Occupancy has not been obtained for the bus loop ancillary buildings

3. Tunnel Ventilation System (TVS)

Tunnel Ventilation
Systems



TVS SIT tests completed – Minor deficiencies and final certification remaining

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4. TOCC & SCADA

Control Rooms	
YCC/BCC Functionality	Vehicle CCTV live viewing integration ongoing with TYCO/ALSTOM Wayside PA/PIS workstation not tested but being used by OC Vehicle PA/PIDS workstation (IDMP) software install required
TOCC Functionality	Vehicle CCTV live viewing integration ongoing Wayside PA/PIS workstation being utilised. Alarm strategy still being progressed RTM does not have control of all systems to fully implement IMIRS

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4. TOCC & SCADA (cont'd)

Station	Comms System		Comments and % completed
All	System Wide	■	Wayside PA/PIDS-Vehicle integration test 17 th July GIDS: CBTC integration complete; deficiency resolution ongoing IAC-CCTV integration still outstanding for MSF HSDR/ automatic missions - not available until September Manual missions being finalised Various other minor deficiencies being tracked
Bair	FDAS, CCTV, PIS, GIDS, IAC, Telephone, HSDR, SCADA	■	
Cynville	FDAS, CCTV, PIS, GIDS, IAC, Telephone, HSDR, SCADA	■	
St Laurent	FDAS, CCTV, PIS, GIDS, IAC, Telephone, HSDR, SCADA	■	
Tremblay	FDAS, CCTV, PIS, GIDS, IAC, Telephone, HSDR, SCADA	■	
Hurdman	FDAS, CCTV, PIS, GIDS, IAC, Telephone, HSDR, SCADA	■	
Lees	FDAS, CCTV, PIS, GIDS, IAC, Telephone, HSDR, SCADA	■	
Ottawa	FDAS, CCTV, PIS, GIDS, IAC, Telephone, HSDR, SCADA	■	
Rideau	FDAS, CCTV, PIS, GIDS, IAC, Telephone, HSDR, SCADA	■	
Parliament	FDAS, CCTV, PIS, GIDS, IAC, Telephone, HSDR, SCADA	■	
Lyon	FDAS, CCTV, PIS, GIDS, IAC, Telephone, HSDR, SCADA	■	
Pinisi	FDAS, CCTV, PIS, GIDS, IAC, Telephone, HSDR, SCADA	■	
Bayview	FDAS, CCTV, PIS, GIDS, IAC, Telephone, HSDR, SCADA	■	
Tunney's	FDAS, CCTV, PIS, GIDS, IAC, Telephone, HSDR, SCADA	■	
MSF	FDAS, CCTV, PIS, GIDS, IAC, Telephone, HSDR, SCADA	■	

4. TOCC & SCADA (con't)

OC Transpo IT Systems

Data Feeds (Next Train Arrival,
Elevators/Escalator Availability,
Washroom Status, Coiling Grill)

VoIP: VoIP calls from ETELS functioning over SIP Trunk / new RTG gateway. Calls from SCU to ETELS now also traversing new gateway. Cleanup of firewall rules pending.

Next Train Arrival API: Revised prediction files received. Inconsistencies remain and feedback provided to RTG. Input from Thales still outstanding. T&CS capturing files from SFTP and monitoring for consistency. Testing occurring Jul 17th

APC Reporting (End State): Discussions ongoing regarding additional required data to be able to interpret Alstom APC feed. Release date for Alstom APC fix pending.



5. Power & Catenary

Power Supply and Distribution		
TPSS #1 incl. OCS (Tunney's Pasture)	✓	TPSS 1 SAT, energized. OCS in service.
TPSS #2 incl. OCS (Pimisi)	✓	TPSS 2 SAT, energized. OCS in service.
TPSS #3 incl. OCS (Parl to Rideau)	✓	TPSS 3 SAT, energized, OCS in service.
TPSS #4 incl. OCS (East of UOttawa)	✓	TPSS 4 SAT, energized. OCS in service.
TPSS #5 incl. OCS (Hurdman)	✓	TPSS 5 energized. OCS in service.
TPSS #6 incl. OCS (East of Tremblay)	✓	TPSS 6 in service. OCS in service. DC feeder for track 2 has intermittent failures
TPSS #7 incl. OCS (Cyrville)	✓	TPSS 7 in service. OCS SAT with minor deficiency.
TPSS #8 incl. OCS (Blair)	✓	TPSS 8 in service. OCS in service.
TPSS #9 incl. OCS (MSF)	✓	In service, SATs complete for TPSS and OCS
TPSS #10 incl. OCS (MSF)	✓	In service, SATs complete for TPSS and OCS
System-Wide Integration	■	Assurance evidence to be reviewed with SEMP and ISA. TPSS failure tests 17, 18 July



6. Safety Assurance

Compliance with Safety Requirements



TIR not scheduled. ESAC review indicates outstanding work:-

- ISA final sign-off will occur at RSA
- SEMP/ISA Audit on June 14 and 15 to review ESAC status

Demonstrating Compliance for Substantial Completion	Volume (at June 10)	Volume (at June 24)	Volume (at July 16)	% Complete	Risk Factor
Safety Assurance, Railway Level:					
Deliverables	51 of 51	51 of 51	51 of 51	100%	
SONOs	14 of 21	14 of 21	14 of 21	67%	
Systems Assurance, System Level:					
Deliverables	45 of 49	45 of 49	49 of 49	100%	
SONOs	0 of 3	0 of 3	0 of 3	66%	
System Assurance, Hazards	347 of 348	347 of 348	347 of 348	99%	




7. CBTC

Train Control		
Zone 1 Train Control (Tunney's – W Portal)	■	Thales software updated to 5.05. Patch installation outstanding
Zone 2 Train Control (W Portal – uOttawa)	■	Thales software updated to 5.05. Patch installation outstanding
Zone 3 Train Control (uOttawa – E of STL)	■	Thales software updated to 5.05. Patch installation outstanding
Zone 4 Train Control (E of STL – Blair)	■	Thales software updated to 5.05. Patch installation outstanding
Zone 5 Train Control (MSF)	■	Thales working on design but implementation date unknown



8. Practice Plan

System Integration Testing	
Zone 1 Tunney's to West Portal	■
Zone 2 West Portal to West of Hurdman	■
Zone 3 Hurdman to E. of St. Laurent	■
Zone 4 East of St-Laurent to Blair	■
Zone 5 MSF	■
System-Wide Integration	■ Pre-trial with 15 doubles : not successfully achieved Trial running: min. 4 days after SC Notice
12-Day Trial Running	
Trial Running	■ Agreement on final details of evaluation process and criteria has been achieved: Trial Running Test Procedure being practised by Trial Running Review Team.
	
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9. Maintenance Readiness & Winter Operations

Maintenance Readiness	
Contract Management	IMIRS - Development work for changes related to the PA Scope 5 Variation are currently underway.
Maintenance and Rehabilitation Plan	Revised plan submitted; inspection templates not finalized
Maintenance Equipment Delivered	Equipment needs to be modified and upgraded based on winter snow clearing experience
Maintenance IT Systems (MMS, IMIRS)	Data transfers for IMIRS under testing; linked to LRV operating hours.
Spare Parts on Hand	Spare parts list
Maintenance Personnel	

Winter Operations	
Winter Maintenance Plan	Submitted



10. Integrated Project Close-Out Execution

Demonstrating Compliance for Substantial Completion	Volume (at June 10)	Volume (at June 24)	Volume (at July 16)	% Complete	Risk Factor
Pre-SC Deficiencies	15 (LRV & SYS)	23 (11 LRV & 12 SYS)	13 (5 LRV & 8SYS)	n/a	■
Pre-RSA Deficiencies	400	302	218	n/a	■
Minor Deficiencies	1161	1141	986	n/a	■
DCLs	279 of 279	279 of 279	279 of 279	100%	■
CCLs	277 of 279	279 of 279	279 of 279	100%	■
ICLs	10 of 10	10 of 10	10 of 10	100%	■
Critical Red Line As-Builts	201 of 210	201 of 210	201 of 210	96%	■
Station Occupancy Permits (Note 1)	13 of 13	13 of 13	13 of 13	100%	■
Critical NCRs	0	0	0	n/a	■
Commissioning Manuals	24 of 24	24 of 24	24 of 24	100%	■
SIT Tests	218 of 238	221 of 238	221 of 238	93%	■
SITS checked by V&V	215 of 238	215 of 238	215 of 238	90%	■
Safety Assurance, Railway Level:					
Deliverables	51 of 51	51 of 51	51 of 51	100%	■
SONOs	14 of 21	14 of 21	14 of 21	67%	■
Systems Assurance, System Level:					
Deliverables	49 of 49	49 of 49	49 of 49	100%	■
SONOs	0 of 3	0 of 3	0 of 3	0%	■
System Assurance: Hazards	347 of 348	347 of 348	347 of 348	99%	■



❖ Data provided by OLRT-C as at July 16, 2019 **Note 1: Conditions noted on Permits**
❖ Data has not been substantiated by OTC

10. Integrated Project Close-Out Execution *(cont'd)*

Integrated Close-Out Schedule	✓	Close-Out Schedule Basis Chart accepted in principle by RTG, Independent Certifier and City. All task breakdown sheets with scheduled end dates completed.
Integrated Project Close-Out Execution	■	A process for demonstrating compliance for substantial completion of fixed facilities and vehicles has been developed. Bi-weekly meetings have been initiated whereby each PA schedule is being reviewed for compliance. With construction slippage and with SEMP now actively engaged, current document reviews are not quite mature enough to demonstrate compliance and therefore the schedule has slipped.
Documentation of Revenue Service Availability Requirements	✓	Documentation of task breakdown sheets completed, plan accepted and detailed schedule of activities that will support RSA requirements is being finalized in various working groups.

