

Transportation Services Department Rail Activation Management Program (RAMP)

Pre- Report to Program Management Team

RAMP Status as of March 18, 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 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.



Action Items

#	Assigned to	Description	Date due	Status
1	OTC / RTG	<p>Vehicles and Retrofits – RFI-P-ALS 1021 October 19/18 - Richard to follow-up on RFI – P – ALS 1021 provided by RTG week of October 9. re: vehicles and retrofits November 27/18 - Discussion has taken place – formal letter to follow February 25/19 - Poor application of intumescent paint acknowledged during final inspection, rework necessary. Validation of paint thickness is still required before relief can be provided.</p> <p>Vehicles – remaining deficiencies Feb 26/19 - Richard and Rupert to review list of remaining vehicle deficiencies.</p> <p>Vehicles - EDR Feb 26/19 - RTG (Alstom) to provide formal communication that the issue with the EDR on vehicles is resolved</p>	March 19/19	Open
3	OLRTC	<p>TVS Hot Smoke Test OLRTC to confirm the date of the hot smoke test in the tunnel. Date to be provided in advance of the test. Date of March 9 was provided at the February 26 RAMP mtg.</p>	ASAP	Open
4	OTC	<p>TOCC February 25/19 - The Controllers have moved into the TOCC, there is still functionality that is outstanding- SCADA and issues that require attention. OTC/OCT to arrange a meeting with the appropriate people from OCT/OTC and OLRTC to discuss deficiencies and outstanding items regarding the functionality of the TOCC.</p>	March 8/19	Open
6	OTC	<p>Safety Assurance February 26/19 - Michael and Richard to review safety certificate from Thales for the train control system. Michael and Richard to provide Rupert with a list that highlight OTC's concerns with the conditions.</p>	March 8/19	Open
8	OLRT-C	<p>Practice Plan October 17&31/18 - To provide the detailed test procedure for trial running. In addition, what is planned for pre-trial running and when will pre-trial running take place. February 25/19 - Trial running procedure still to be provided by RTG</p>	ASAP	Open
9	OTC / RTG	<p>Maintenance Readiness & Winter Operations Spare Parts on Hand Date for when Spare Parts on Hand will be resolved. February 25/19 - RTG has provided electronic spare parts list. Still under review and being verified in the field</p> <p>IMIRS February 26/19 - Peter to take away the missing Alstom information from IMIRS and report back</p> <p>Maintenance and Rehabilitation Plan Richard to provide a detailed list of the missing documentation for the Maintenance and Rehabilitation Plan. Following receipt Peter to review and provide response.</p>	March 8/19	Open

10 Critical Elements

#	Element	Status	Comments
1	Vehicles (34)	■	All 34 vehicles assembled and DPICO'd. No vehicle has final acceptance.
2	Station Occupancy Permits (13)	■	BCS issued Occupancy Permits for 2 stations – Pimisi and Bayview
3	Tunnel Ventilation System (TVS)	■	TVS SIT complete for all four tunnel stations. Result and deficiencies not yet provided to the City.
4	TOCC / SCADA	■	ERCs operating in TOCC with deficiencies outstanding.
5	Power / Catenary	■	Final load testing required; root cause for recent failure modes required.
6	Safety Assurance	■	ESAC review indicates outstanding work
7	CBTC	■	Pending Thales 5.03 software update
8	Practice Plan	■	Dates not yet scheduled. Trial Running Test Procedure – not yet delivered.
9	Maintenance Readiness & Winter Operations	■	Final winter maintenance plan and winter corrective action plan required
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	■	
	No reliability issues that degrade safe operation	■	
People	Staff & stakeholders: Fully mobilized	■	EROs, ERCs not yet certified. Training and OJT continue and will continue up to start of Revenue Service. OCT Customer Service Staff and Stakeholder plan in development, not yet implemented.
Guideway	Civil and Class 5 track work: 100%	■	Issues with switch heater performance. Track to earth resistance not fully demonstrated
	Bus network and bus loops fully functional	■	Hurdman bus test complete. Tunney's Pasture bus test scheduled for March 31. Blair bus test TBD. New bus route network planning and scheduling complete.
Stations	No major impacts to customer experience	■	OCT/OTC deficiencies provided to OLRTC
	Fire systems: 100%	■	
	Lighting systems: 100%		
	Elevators & escalators: 100%	■	TSSA approval of plywood variance and certification remains pending.
Vehicles	Thirty-four trains including Bill of Sale	■	Not yet complete. 34 vehicles assembled. No vehicles has final acceptance
	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	■	Not yet complete
	System performance during Trial Running is sufficiently robust/resilient to absorb service impacts	■	Trial running not yet complete
Maintenance	Contractual requirements fulfilled, RTM mobilized	■	

4. Vehicles						
Overall	<ul style="list-style-type: none"> Risk: Vehicle availability and track time under pressure. LRV availability uncertain – changes daily Risk: Type Tests TD09 and TD10 not complete Risk: Works Schedule not aligned with Alstom schedule. HVAC test validation outstanding 					
	NRV PA	Availability Plan	Proof of Use	Proof of Use	NRV PA	Final Response
LRV 1	✓		✓	✓		Schedule not updated
LRV 2	N/A					N/A
LRV 3	✓		✓	✓		Schedule not updated
LRV 4	✓		✓	✓		Schedule not updated
LRV 5	✓		✓	✓		Schedule not updated
LRV 6	✓		✓			Schedule not updated
LRV 7	✓		✓	✓		Schedule not updated
LRV 8	N/A		✓			N/A
LRV 9	✓		✓	✓		Schedule not updated



1. Vehicles (cont'd)

	OLRT PA	Asset Value	OPIC	Report Contig 5	Yr	Final Acceptance	
LRV 10	✓	■	✓	✓		■	Schedule not updated
LRV 11	✓	■	✓	✓		■	Schedule not updated
LRV 12	✓	■	✓	✓		■	Schedule not updated
LRV 13	✓	■	✓	✓		■	Schedule not updated
LRV 14	✓	■	✓	✓		■	Schedule not updated
LRV 15	✓	■	✓	✓		■	Schedule not updated
LRV 16	✓	■	✓	✓		■	Schedule not updated
LRV 17	✓	■	✓	✓		■	Schedule not updated
LRV 18	✓	■	✓	✓		■	Schedule not updated
LRV 19	✓	■	✓	✓		■	Schedule not updated
LRV 20	✓	■	✓	✓		■	Schedule not updated
LRV 21	✓	■	✓	✓		■	Schedule not updated
LRV 22	✓	■	✓	✓		■	Schedule not updated
LRV 23	✓	■	✓	✓		■	Schedule not updated
LRV 24	✓	■	✓	✓	1964	■	Schedule not updated



1. Vehicles (cont'd)

	CLRT FA	Avail status	DPF/FG	Detritus Config. 2	PH	Final Appearance
LRV 25	✓	■	✓	✓		■ Schedule not updated
LRV 26	✓	■	✓	✓		■ Schedule not updated
LRV 27	✓	■	✓	✓		■ Schedule not updated
LRV 28	✓	■	✓	✓		■ Schedule not updated
LRV 29	✓	■	✓	✓		■ Schedule not updated
LRV 30	✓	■	✓	✓		■ Schedule not updated
LRV 31	✓	■	✓	✓		■ Schedule not updated
LRV 32	✓	■	✓	✓		■ Schedule not updated
LRV 33	✓	■	✓	✓		■ Schedule not updated
LRV 34	✓	■	✓	✓		■ Schedule not updated
LRV 35 (02)	✓	■	✓	✓		■ Schedule not updated
LRV 36 (08)	✓	■	✓	✓		■ Schedule not updated




2. Station Occupancy Permits

OTC Update 15-Mar-19

FIXED FACILITIES INSPECTIONS STATUS

	BCS			Occupancy
	Plumbing	Mechanical	Building	
Blair			(***)	
Cyrville			(***)	
St. Laurent		19-Mar	TBD	
Tremblay			(***)	
Hurdman			(***)	
Lees			(***)	
uOttawa			(***)	
Rideau	10-Mar	11-Mar	10-Mar	
Parliament	10-Mar	18-Mar	14-Mar	
Lyon	29-Jan	21-Feb	21-Feb	
Pimisi				27-Feb
Bayview				12-Mar
Tunney's Pasture			(***)	

Legend:

	Progress Inspection
	Inspection Failed
	Inspection Passed
	Occupancy Permit issued with Conditions

(***) Pending stairs to be repaired

Plumbing Lyon, Parliament, Rideau discussions with BCS about the documents
escalators are pending for the plywood variance -TSSA committee TBD



2. Occupancy permits

Stations – East	Status
Blair	BCS occupancy permit remains outstanding. The latest BCS Inspection Reports identify outstanding items: Building (6). Outstanding items include Architect CCL not satisfactory as it includes multiple exclusions; Stair rise/run tolerances (nosing to nosing) deficiencies to be fixed. Additional verification / process to be satisfied (OFS, TSSA, etc.) prior to being able to open for public (revenue service).
Blair Bus Loop	Complete
Cyrville	BCS occupancy permit remains outstanding. The latest BCS Inspection Reports identify outstanding items: Building (3). Outstanding items include Stair rise/run tolerances (nosing to nosing) deficiencies to be fixed; Additional verification / process to be satisfied (OFS, TSSA, etc.) prior to being able to open for public (revenue service).
St. Laurent	BCS occupancy permit remains outstanding. The latest BCS Inspection Reports identify 45 outstanding items: Mechanical (29) and Building (16). Outstanding Items include: Architect CCL; Alternative Solution sign-off letter for Station escalator Truss Enclosure and Elevator Shaft Enclosure Requirements; Stair rise/run tolerances (nosing to nosing) deficiencies; Additional verification / process to be satisfied (OFS, TSSA, etc.) prior to being able to open for public (revenue service).
Tremblay	BCS occupancy permit remains outstanding. The latest BCS Inspection Reports identify outstanding items: Building (6). Outstanding Items include: Stair rise/run tolerances (nosing to nosing) deficiencies to be fixed; Additional verification / process to be satisfied (OFS, TSSA, etc.) prior to being able to open for public (revenue service).
Hurdman	BCS occupancy permit remains outstanding. The latest BCS Inspection Reports identify outstanding items: Building (1) Stair rise/run tolerances (nosing to nosing) deficiencies.
Hurdman Bus Loop	Complete
Lees	BCS occupancy permit remains outstanding. The latest BCS Inspection Reports identify outstanding items: Building (1) Stair rise/run tolerances (nosing to nosing) deficiencies.
uOttawa	BCS occupancy permit remains outstanding. The latest BCS Inspection Reports identify outstanding items: Building (1) Stair rise/run tolerances (nosing to nosing) deficiencies.

2. Occupancy Permits (cont'd)

Stations – Tunnel and West		Status
Rideau	■	BCS occupancy permit remains outstanding. The latest BCS Inspection Reports identify 57 outstanding items: Plumbing (15), Mechanical (21) and Building (21). Method of preventing sand/grit from entering the plumbing system remains to be resolved. Water leakage issue is ongoing. Stairs rise/run out of tolerance. Smoke control needs to be demonstrated.
Parliament	■	BCS occupancy permit remains outstanding. The latest BCS Inspection Reports identify 36 outstanding items: Plumbing (8), Mechanical (19) and Building (9). Water leakage remains to be resolved. Stairs rise and run out of tolerance. Method of preventing sand/grit from entering the plumbing system remains to be resolved.
Lyon	■	BCS occupancy remains outstanding. The latest BCS Inspection Reports identify 24 outstanding items: Plumbing (6), Mechanical (10) and Building (8). Functionality of heat tracing protection for all plumbing system yet to be confirmed. Various damper operational issues to be resolved. Various E-tel operational issues to be resolved and re-demonstrated.
Pimisi	■	Occupancy permit issued by BCS Feb 27/19 with 5 conditions. The latest BCS Inspection Reports identify outstanding items: Mechanical (5) and Building (6). Items include Alternative Solution sign-off letter for Station escalator Truss Enclosure; Escalators to remain in a stopped position pending alternative solution and TSSA approval; consultants to confirm design and completion of signage identifying the barrier free means of egress.
Bayview	■	Occupancy permit issued by BCS on March 12/19, with 5 conditions. The latest BCS Inspection Reports identify outstanding items: Mechanical (5) and Building (6). Items include Alternative Solution sign-off letter for Station escalator Truss Enclosure; Escalators to remain in a stopped position pending alternative solution and TSSA approval; Consultants to confirm design and completion of signage identifying the barrier free means of egress.
Tunney's Pasture	■	BCS occupancy permit remains outstanding. The latest BCS Inspection Reports identify outstanding items: Mechanical (7) and Building (4). Items include Structural SVR for superstructure; Alternative Solution sign-off letter for Station escalator Truss Enclosure; Stair rise/run tolerances (nosing to nosing) deficiencies; Consultants to confirm design and completion of signage identifying the barrier free means of egress
Bus loop/buildings	■	



3. Tunnel Ventilation System (TVS)

Tunnel Ventilation
Systems



St-Laurent TVS SIT test completed – results and deficiencies not provided to City.

Lyon TVS SIT test completed – results and deficiencies not provided to City.

Parliament TVS SIT test completed – results and deficiencies not provided to City.

Rideau TVS SIT test completed – results and deficiencies not provided to City.

Validation by SEMP outstanding on CCLs, ICL and SITs

The logo for the City of Ottawa, featuring a stylized sun or wave symbol to the left of the word "Ottawa" in a serif font.

4. TOCC & SCADA

Control Rooms

YCC/BCC Functionality

Vehicle CCTV & APC not yet available, video wall SIT outstanding, missing SITs for video archive & workstations

TOCC Functionality

Vehicle CCTV & APC not yet available, video wall SIT outstanding, missing SITs for video archive & workstations, PA/PIDS console not installed or tested. Deficiencies remaining. No Alarm Strategy



4. TOCC & SCADA (cont'd)

Station	Comms System	Status	Comments
Blair	FDAS, CCTV, PA, PIDS, GIDS, ACS, Telephone, HSDR	■	Telephony: intercoms not routed to TOCC, Transit Law & Information Desk
Cyrville	FDAS, CCTV, PA, PIDS, GIDS, ACS, Telephone, HSDR	■	PIS-CBTC: integration ongoing (audio & visual messages not synced with vehicles)
St Laurent	FDAS, CCTV, PA, PIDS, GIDS, ACS, Telephone, HSDR	■	GIDS: configuration ongoing, vehicles causing intrusion alarms, fix then re-SAT
Tremblay	FDAS, CCTV, PA, PIDS, GIDS, ACS, Telephone, HSDR	■	IAC: integration ongoing, varying completion 35-60% for card readers & door strikes
Hurdman	FDAS, CCTV, PA, PIDS, GIDS, ACS, Telephone, HSDR	■	SAT/SIT reports: outstanding SCADA (SAT & SITs), GIDS, IAC, HSDR, etc.
Lees	FDAS, CCTV, PA, PIDS, GIDS, ACS, Telephone, HSDR	■	
uOttawa	FDAS, CCTV, PA, PIDS, GIDS, ACS, Telephone, HSDR	■	
Rideau	FDAS, CCTV, PA, PIDS, GIDS, ACS, Telephone, HSDR	■	iTels not functional, IAC cable pulls & card readers 60% installed (not functional), overall integration 10%, SCADA PICO's, IAC SATs, system wide tests outstanding
Parliament	FDAS, CCTV, PA, PIDS, GIDS, ACS, Telephone, HSDR	■	iTels not functional, 2 concourse PIDS not installed, overall integration 30%, SATs and SITs outstanding. <i>note: concourse CCTV recently installed (was pending artwork)</i>
Lyon	FDAS, CCTV, PA, PIDS, GIDS, ACS, Telephone, HSDR	■	Same items as East (Tel, PIS-CBTC, GIDS & reports), IAC integration 20%
Pimisi	FDAS, CCTV, PA, PIDS, GIDS, ACS, Telephone, HSDR	■	Same items as East (Tel, PIS-CBTC, GIDS & reports), IAC integration 15%
Bayview	FDAS, CCTV, PA, PIDS, GIDS, ACS, Telephone, HSDR	■	Same items as East (Tel, PIS-CBTC, GIDS & reports), IAC integration 5%
Tunney's	FDAS, CCTV, PA, PIDS, GIDS, ACS, Telephone, HSDR	■	Same items as East (Tel, PIS-CBTC, GIDS & reports), IAC integration 80%

4. TOCC & SCADA (con't)

OC Transpo IT Systems

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

Network Connectivity: RTG & City firewalls installed. Ongoing configuration troubleshooting between RTG and City ITS occurring. Final network document to be submitted once final working configuration is in place. Permanent City network equipment installed at 895 Belfast, awaiting cutover from temporary switch. Wi-Fi being investigated for 805 Belfast.

Next Train Arrival: No New Updates. OLRTC has advised that previously received ICD from Willowglen will be replaced with a new one issued by OLRTC. To expedite process, OC Transpo has asked OLRTC to review comments provided in October 2018 on Willowglen document. OLRTC was tracking to have live data available as of the 2nd or 3rd week of March. Once data format is confirmed, internal development can resume.

APC: No New Updates. OC Transpo continues to monitor availability of data. Once data format is confirmed, OC Transpo will re-engage with Infodev.



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.
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	■	No schedule update for final SITs



6. Safety Assurance

Compliance with Safety Requirements



TIR not scheduled. ESAC review indicates outstanding work:-

- SIL Allocation
- Use Case /Interface Register Completeness
- O&SHA(Human Factors & ORD)
- Test Coverage
- Configuration Management / Change Control

Demonstrating Compliance for Substantial Completion	Volume (at February 1)	Volume (at February 8)	Volume (at February 22)	% Complete	Risk Factor
Safety Assurance, Railway Level:					
Deliverables	40 of 51	42 of 51	42 of 51	82%	
SONOs	10 of 21	10 of 21	10 of 21	48%	
Systems Assurance, System Level:					
Deliverables	45 of 50	45 of 49	45 of 49	92%	
SONOs	0 of 4	0 of 3	0 of 3	0%	
System Assurance: Hazards	343 of 346	343 of 346	343 of 346	99%	



7. CBTC

Train Control		
Zone 1 Train Control (Tunney's – W Portal)	■	Thales software update to 5.03 pending
Zone 2 Train Control (W Portal – uOttawa)	■	Thales software update to 5.03 pending
Zone 3 Train Control (uOttawa – E of STL)	■	Thales software update to 5.03 pending
Zone 4 Train Control (E of STL – Blair)	■	Thales software update to 5.03 pending
Zone 5 Train Control (MSF)	■	Thales working on design but implementation plan unknown



8. Practice Plan

System Integration Testing	
Zone 1 Tunney's to West Portal	■ Pending integration of Comm systems
Zone 2 West Portal to West of Hurdman	■ Rideau & Parliament integration in early stages
Zone 3 Hurdman to E. of St. Laurent	■ Pending integration of Comm systems
Zone 4 East of St-Laurent to Blair	■ Pending integration of Comm systems
Zone 5 MSF	■ Pending integration of Comm systems
System-Wide Integration	■ Pre-trial running: no scheduled dates Trial running: no scheduled dates Plan to run 20 single cars still outstanding Plan to run multiple coupled cars still outstanding
12-Day Trial Running	
Trial Running	■ Agreement on final details of evaluation process and criteria has been achieved: RFI documenting criteria has been accepted. Trial Running Test Procedure – not yet delivered



9. Maintenance Readiness & Winter Operations

Maintenance Readiness		
Contract Management	■	IMIRS DATA feeds remain outstanding for TPMS, OCT has been informed by RTM that it is anticipate that approx. 20% of assets will not be included until after RSA. Alstom GSI to IMIRS interface function complete and will be switched to a live environment at RSA.
Maintenance and Rehabilitation Plan	■	Revised plan submitted; OLRT-C O&M Manuals missing
Maintenance Equipment Delivered	■	Equipment needs to be modified and upgraded based on winter snow clearing experience
Maintenance IT Systems (MMS, IMIRS)	■	Asset registry approx. 85% complete. Data transfers for IMIRS under testing; linked to LRV operating hours
Spare Parts on Hand	■	Spare parts list indicates required inventory not in stock
Maintenance Personnel	■	Training still underway
Winter Operations		
Winter Maintenance Plan	■	Still in draft – work in progress between OTC/OC and RTM



10. Integrated Project Close-Out Execution

Demonstrating Compliance for Substantial Completion	Volume (at February 8)	Volume (at February 22)	Volume (at March 15)	% Complete	Risk Factor
Minor Deficiencies	442	527	671	n/a	■
DCLs	250 of 276	272 of 278	275 of 278	99%	■
CCLs	255 of 271	264 of 276	277 of 279	99%	■
ICLs	0 of 32	9 of 10	9 of 10	90%	■
Critical Red Line As-Builts	TBD	74 of 98	74 of 98	76%	■
Station Occupancy Permits	0 of 13	0 of 13	2 of 13	15%	■
Critical NCRs (Note 1)	45	49	42	n/a	■
Commissioning Manuals	3 of 24	12 of 24	14 of 24	58%	■
SIT Tests	184 of 220	191 of 220	200 of 237	84%	■
SITS checked by V&V	96 of 220	100 of 220	111 of 237	47%	■
Safety Assurance, Railway Level:					
Deliverables	40 of 51	42 of 51	42 of 51	82%	■
SONOs	10 of 21	10 of 21	10 of 21	48%	■
Systems Assurance, System Level:					
Deliverables	45 of 50	45 of 49	45 of 49	92%	■
SONOs	0 of 4	0 of 3	0 of 3	0%	■
System Assurance: Hazards	343 of 346	343 of 346	343 of 346	99%	■

❖ Data provided by OLRT-C as at March 15, 2019

❖ Data has not been substantiated by OTC as all documents not yet provided

Note 1: Presentation changed to report remaining NCRs requiring resolution prior to Substantial Completion



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.

