	ECSD PROGRAM AND INITIATIVE STATUS	UPDA	ATE (Si	nce Sep	tember 2016 Response to Board Motion 57)			
	In Development Completed Continuous Improvement Board Motion 57 Related Items	Year Initiated	Current Status	Completion Date	Comments	SC(1)	Motion 57 Reference (2)(3)(4)(5)(6)(7)(8)	Reference Back to FY19 Initiatives
Reference #		CLIN	лате С	HANGE	& RESILIENCY			
	ISO 14001:2015 Certification and Implementation			2017	Basis for the implementation of Metro Environmental Policy and other environmental and sustainability efforts for continual improvement.	*	E	
1	Design and Implement an Enterprise-Wide EMS solution for all facilities	2009			EMS successfully implemented on 19 operating Divisions and three major capital projects. Evaluating the addition of three new support facilities over the next three years.	*	E	
2	Develop guiding document and integrate Climate Change into EMS	2017		2019	Climate change has been added to the Context of the Organization; guidance document for integrating climate change efforts into the EMS is not complete.	*	E	
3	Integrate EMS into construction activities	2016			The Crenshaw LAX project was certified to ISO standards in 2017. Began implementation of EMS on PLE1 and Regional Connector late 2017. Ongoing evaluation of candidate construction projects to add to the EMS.	*	E	
4	Incorporate EMS into Risk Assessment/Management  Resiliency Framework	2017			Had been in discussions with Project Management Risk Management staff and QA staff on incorporating the ISO 14001 Environmental Management System principles as a risk reduction strategy.		E	
5	Resiliency Indicator Framework Report	2014		2018	Being updated per Cris' request. Due by end of 2018.		A4	Resiliency
6	Develop a Water Conservation Program	2015		2019	Program is being managed with specific projects aimed at conserving water at Divisions and in ROWs	*	B4	
7	Develop a NOx Emissions Reduction Program	2008		2017	89% reduction in NOx emissions from bus fleet	*	A1	Climate Action Plan Update
8	Develop a CO2e Emissions Reduction Program			2017	25% reduction in CO2e emissions		А3	Climate Action Plan Update
9	Complete an updated study on flooding, rising seas levels, and high heat	2017		2019	Update to initial flood, sea level and high heat maps initiated as part of CAAP update.	*	A4	Climate Action Plan Update, Resiliency
10	Review Asset Management Framework/Tool	2017		2019	Being conducted as part of CAAP update.		A4	Climate Action Plan Update
	Climate Action & Adaptation Plan (CAAP)							
11	Create a CAAP working group	2017		2019	Working group updating CAAP	*	A2	Climate Action Plan Update
12	Develop an Energy and Sustainability Policy	2007		Jun-07	Board approved on June 28, 2007	*	A4	
13	Develop a CAAP	2017		2019	Initial CAAP was completed in 2012. The update will be completed in 2019	*	A2	Climate Action Plan Update
14	Develop Greenhouse Gas Emissions Cost Effectiveness Study				While completed, study is underway to include new cost and environmental benefits monetization framework. This effort is separate from the CAAP.	*	A2	
15	Develop a Biomethane Implementation Study	2012		Jun-13	Board approved in June 2013. Metro executed first biomethane supply contract in August 2017. This effort is separate from the CAAP.	*	A1	
16	Develop a LCFS Market Analysis and Revenue Optimization Plan	2014		,	Board approved in May 2014. This effort is separate from the CAAP.	*	A1	
17	Implement Environmental Liability Assessment and Reporting				METRO Policy Gen 49 covers this and is an ongoing annual activity. This is separate from the CAAP update.		А3	Climate Action Plan Update
	Metro Board Motion (2016-0157)							
18	Increase agency infrastructure resiliency	2017			Assessment of agency-wide resiliency plans are in development. Framework will be presented to the Board in late Fall 2018/Winter 2019.		A3, E	Resiliency
	Metro's Urban Greening Implementation Action Plan							
19	Project-specific Sustainability Coordinator	2016			Each capital project is assigned a sustainability coordinator. Efforts are being made to include ECSD in the planning process to ensure that sustainability is integrated into the project scope, schedule and budget	*	B3	
20	Increase the number of Urban Greening projects	2016		2019	Assessments and white paper being created to determine breadth and scope of urban greening opportunities; Initial rough order magnitude to implement completed	*	B4	
21	Regional Advance Mitigation Planning (RAMP) Document  Metro Regional Advance Mitigation Needs and Feasibility Assessment	2017		2018	Assessment document provided to the Metro Board in July 2018.	*	F	
	Develop White Paper: Integrating Mitigation, Carbon Sequestration and Ecosystem Services at Community				Being updated to reflect urban greening opportunities.		-	
22	Relevant Scales	2017		2018	3 5		E	

## ECSD PROGRAM AND INITIATIVE STATUS UPDATE (Since September 2016 Response to Board Motion 57)

	In Development Completed							
	Continuous Improvement Board Motion 57 Related Items	Year Initiated	Current Status	Completion Date	Comments	SC(1)	Motion 57 Reference (2)(3)(4)(5)(6)(7)(8)	Reference Back to FY19 Initiatives
23	Develop opportunities for zero/near zero emission technologies	2016		2025	Investigating and Implementing clean fuel technologies. Working with the Vehicle Engineering & Acquisition group to review technologies, negotiate rates and assess power infrastructure requirements.	*	D3	
Gı	reen Procurement Policy, Framework and Implementation	2018		2019	Developing draft framework and policy. To be completed by Spring 2019	*	B2	
24	Sustainable Purchasing Guidelines for Gateway	2018		2019	Task order in process and initial stages of this project in beginning phases of research		B2	Green Procurement
м	etro Sustainability Implementation Plan (MCIP)	2018		2019	Draft MSIP outline discuss with Cris on 8/15/2018. As discussed, the MSIP update will proceed in conjunction with the development of the CAAP.		А, С	
25	Revise and update plan from 2008	2018		2019	Draft MSIP outline discuss with Cris on 8/15/2018. As discussed, the MSIP update will proceed in conjunction with the development of the CAAP.		А, С	Climate Action Plan Update
	ACMTA Green Construction Policy specification							
26	Revise the LACMTA Green Construction Policy specification	2016		2019	Coordinating efforts with V/CM and Project Management		B, D	Green Procurement
27	Decarbonization/Reduce onsite fuel use by 25%	2017		2020	Ongoing requirements to reduce onsite fuel during construction		B, D	Green Procurement
М	etro Climate Vulnerability and Risk Assessment	2016				*	Α	
28	Update document to meet current standards	2017		2019	In development. Covered in the 2012 CAAP and being updated for ~2019 CAAP	*	А	Climate Action Plan Update, Green Procurement, Resiliency
UĮ	pdate and Rebaseline the Metro Rail Design Criteria (MRDC)	2017		2018	Project was completed in 2017. To be rebaselined in 2018		A, B, C, D	Climate Action Plan Update, Green Procurement, Resiliency
29	Update baseline to cover new requirements, regulations and standards	2016		2018	Reviewing/incorporating new requirements, e.g., ASCE PS 556: Owners' Commitment to Sustainability, into MRDC.		A, B, C, D	Climate Action Plan Update, Green Procurement, Resiliency
Uį	pdate and Rebaseline the Bus Rapid Transit (BRT)	2017		2018	BRT MRDC has been updated and is being reviewed by Metro Planning		A, B, C, D	Climate Action Plan Update, Green Procurement, Resiliency
30	Update baseline to cover new requirements, regulations and standards	2017		2018	Futher revision might be required after Metro Planning review		A, B, C, D	Climate Action Plan Update, Green Procurement, Resiliency
Cr	reate relationships with external stakeholders regarding climate change							
31	Engage external stakeholder regarding industry standard best practices	2016		2020	Through the Sustainability Council, technology partners, consultants, vendors and the development of the CAAP, engaging with external engagement has been a focus for sustainability at ECSD	*	E	
Es	stablish a program for compiling new technologies and engineering solutions	2016		2020	Ongoing evaluation of technologies for integration into the metro system. We have not developed a system for cataloging and evaluating. In partnership with other Metro departments and organizaitons incuding outside organizaitons like LA Cleantech Incubator, currently ad hoc.		D1	
32	Develop a process for to catalog and evaluate new technologies	2016		2019	Currently ad hoc through a number of lists in various departments including ECSD, OEI, and across Metro.		D1	
De	evelop an Annual Sustainability Report (Energy and Resources Report)							
33	Compile a report that illustrates all the data pertaining to Metro's sustainability achievements	2016		2018	Published 2018 Energy & Resource Report in July 2018	*	A, B, C, D	Climate Action Plan Update, Green Procurement, Resiliency
		2013			In place as part of Metro Environmental Management System	*	D1	
M	aintain Metro's Environmental Training Institute (ETI)							
34	On-going program management and support will be provided for the ETI	2016		2018	Continually updating modules and working on new modules for internal awareness and training of regulatory issues; trained more than 700 and certified more than 400 Metro employees and stakeholders since 2017.	*	D1	

	ECSD PROGRAM AND INITIATIVE STATU	SUPDA	41E (21	ECSD PROGRAM AND INITIATIVE STATUS UPDATE (Since September 2016 Response to Board Motion 57)											
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35	Sustainability Plans will be incorporated into project development for ALL construction projects	2016		2018	ECSD is continually working with Project Management and Construction staff to enforce the development and implementation of sustainability plan.	*	В, С								
	Strengthen and Expand Metro's Green Construction Policy (GCP)														
36	Review GCP to identify opportunities to expand and strengthen Specifications Section 01 35 66	2016			Continually being improved and updated.	*	В, С	Climate Action P Update, Green Procurement, Resiliency							
	Update and Implement Metro's Sustainability Program and Project Plan	2016													
37	Ongoing management and support for the sustainability program and projects	2016			ECSD management and staff are dedicated to supports Metro's sustainability programs and projects, both on Capital projects and O&M	*	В, С, Е								
	References: (1) Presented to the Sustainability Council either as a stand alone item or part of an overall related report. (2) Refer to Board Motion Item #57 by Garcetti, Kuehl, Ridley-Thomas, Solis, and Bonin Dated February 18, 20 (3) Each of the codes below refer to the items in Motion Item #57. (4) Item "A" referrs to climate change and resiliency (5) Item "B" refers to sustainable infrastructure strategies (6) Item "C" refers to transit connectivity activities (7) Item "D" refers to green technology and partnerships (8) Item "E" refers to Metro Environmental Compliance and Sustainability activities	016.													

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	In Development Completed Continuous Improvement Board Motion 57 Related Items	Year Initiated	Current Status	Completion Date	Comments	SC(1)	Motion 57 Reference (2)(3)(4)(5)(6)(7)(8)	Reference Back to FY19 Initiatives
				ENER	GY			
38	Energy Management Action Plan (EMAP)	2016			Working through this process within the EMS. Completing an Energy Resiliency White Paper to feed into a Metro Resiliency Policy.		D	 
	Metro Board Motion (2016-0157)							
39	Reduce facility energy use/cost by 2020	2017			Developing baseline for energy-use intensity to account for facility growth	*	D	Daviliana
40 41	Increase fuel efficiency Increase energy efficient lighting	2015 2010			ZEV transitions will increase fuel efficiency Various lighting upgrades in progress	*	A4, D A4, D	Resiliency Resiliency
42	Increase Propulsion and Auxiliary Systems	2013		2020	Developed a Sustainable Rail Plan in 2013 that identifies opportunities for address these issues. Several pilots have been completed at the Red/Purple Line and Gold Lines with others underway.		A4, D	Resiliency
43	Implement alternative energy generation technology	2014			Developing PPA project and supporting other Metro renewable energy installation projects	*	A4, D	Resiliency
	Electric Vehicle (EV) Charging Program							ali i i i i
44	Conduct feasibility study focusing on conversion of non-revenue vehicles to EV	2016		Dec-16	Project was completed	*	A3, A4, A5, D	Climate Action Plan Update
45	Conduct feasibility study of zero emission vehicles to grid (V2G)	2018		Sep-18	Metro consultant is finalizing report. December 2018.		A3, A4, A5, D	Climate Action Plan Update
46	Develop EV Charger Implementation Plan	2018		Oct-18	Metro consultant is continuing to conduct interviews and develop report		A3, A4, A5, C, D	
47	Bus Electrification Program  Provide ongoing and as-needed support	2017		2020	Participating in regular coordination meetings with Vehicle Technology and Acquisition	*	A1, A2, A3	
48	Develop Rate analysis and structure - Resiliency	2015			Participating in regular coordination meetings with utility partners to identify opportunities.		A4, D, E	Resiliency
49	Develop Bus Division Energy Resiliency Site Analysis and Planning	2016		2017	White Paper completed by Metro consultants. Initiating next phase for implementation		A4, D, E	Resiliency
	Gateway LED Lighting and advanced lighting controls							
50	Retrofit Building LED Lighting and advanced lighting controls	2013		2019	Completed audits in 2016. Developed specifications in 2017. A building survey to develop As Built drawings was conducted in July/August 2018; final As Built drawing to be completed by September 2018. RFP package is being finalized.		A4, D, E	
51	Retrofit Garage LED Lighting Retrofit	2017		2018	Project is underway to be completed by December 2018		A4, D, E	
52	Parking Structure Lighting Upgrades	2017		2018	Project is over 50% complete (four parking structures - not gateway)		A4, D, E	Γ
53	Central Maintenance Facility Building 5 Air Scrubber	2016		2018	Finalizing solicitation package. Pre-Bid Conference and Job Walk scheduled for August 29, 2018.		A4, D, E	1
	Comprehensive Energy Efficiency Project Portfolio (BUS)							
54	Energy Conservation measures at Bus Div. 3,7,9 and 15	2015		2019	Lighting measures have been completed at Division 7 Maintenance Bay and Division 9 Fuel Island. Additional measures being considered.		A4, D, E	
55	Perform Energy Audits to plan ECMs	2015		2020	Energy audits were completed in 2015. Measures identified included \$1.4M in lighting and mechanical measures, annual kWh savings of 1,986MW.		A4, D, E	<u> </u>
	Division 18 Energy Retrofit Project Portfolio				Audite identified measures that would reduce everall energy seet by 12.5%			1
56	Conduct energy audit to develop ECMs	2017		2020	Audits identified measures that would reduce overall energy cost by 13.5%.  Measures are currently being discussed with facility stakeholders.		A4, D, E	<u> </u>
	103rd Watts Outdoor Area Lighting	2017		2018	Pilot project was completed on February 11, 2018. Ten-year cost savings = \$41,118.		A4, D, E	1
57	Design and Install energy efficient Outdoor Area Lighting (OAL) service  Gateway Parking Garage Variable Frequency Drive (VDRs)	2016			Project is in next phase of implementation		A4, D, E	
58	Install VDRs on exhaust fans and supply fans	2016			Project was identified in April 2016 Gateway Building Energy Audit but was not immediately pursued. General Services is considering this project		A4, D, E	 
	Division 30 Energy Efficiency Project Package Portfolio	<u> </u>			anneaded, paraded deficial services is considering this project			
59	Install a portfolio of ECMs at the Central Maintenance Facility (CMF)	2015			Energy audits were conducted which identified \$2.5M in lighting and mechanical measures. Projects have not been developed or funded.		A4, D, E	
	Comprehensive Energy Efficiency Project Portfolio (RAIL)				·			
60	Install a portfolio of ECMs at Divisions 11 & 22	2014		2016	Lighting retrofits and controls were completed at Division 11 and 22. Division 22 project verified 976,070 kWh and \$59,450 in annual savings.		A4, D, E	
	Community Solar and Clean Powers Authority							

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61	Work with US Department of Energy and the LA County Clean Power Authority (CPA) in increasing renewable energy mix for propulsion and facilities, specifically within the Southern California Edison (SCE) territory	2015		2019	In negotiations with community solar provider, received US DOE grant to develop comprehensive community solar program. Transition all electric meters within SCE territory to CPA for increased renewable mix and discounted energy rates.	*	A4, D, E	Resiliency
	Conjunctive Billing and Direct Access							
62	Work with utility partners to achieve favorable structures for power	2015		2019	Participating in regular coordination meetings with utility partners to identify opportunities.		A4, D, E	Resiliency
	Power Purchase Agreement (PPA) 1							
63	PPA to install PV/Roof Repairs at Division 9, 11, 14 and 22	2016			Roof replacement IFB to be released shortly; targeting Notice to Proceed by the end of 2018.  Electrical surveys conducted at Divisions 9, 11, 14, and 22 to identify spare conduit for connecting PV systems to the electrical service and determine capacity of the electrical systems. PV PPA SOW under going revision based on information collected during the electrical surveys. Meeting with ATU representative to be scheduled once the SOW is updated. PPA contract documents being finalized.	*	A4, D, E	Resiliency
	Bus Yard Canopy Conceptual Design							
64	Design concepts for solar canopies at three bus divisions	2016		2018	Design concepts were completed. Results being considered for additional projects.	*	A4, D, E	Resiliency
	Biomethane Procurement							
65	Manage and procure biomethane fuel	2015			Board approved in June 2013. Metro executed first biomethane supply contract in August 2017. Bench solicitation being developed for RFP release in Fall 2018.	*	A4, D, E	
	Photovoltaic Preventative Maintenance							
66	Implement a PV Preventative Maintenance system	2017		2018	Program was first implemented in 2015 and has been successful. 2018 Q1 system performance improved 18.8% over Q1 2017 and 40.5% over Q1 2016	*	A4, D, E	
	Measurement and verification (M&V) of Wayside Energy Storage System (WESS)							
67	M&V data on the effectiveness of the flywheel storage system in storing energy  Pathways to Zero Net Energy (PZNE)				Data is currently generated		D, E	
68	PZNE seeks to eliminate energy-related greenhouse gas emissions	2017		Jul-17	Draft report was completed and then project was shelved due to intellectual property conflicts.		D, E	
	Sustainability Plan - Energy Security Operations Center (ESOC)				property commets.			
69	Provide ongoing and as-needed support	2017			Supporting project on an as needed basis		B, C, E	
70	LOC64 Sustainability Plan	2047			Constitution and the constitution of the const		2.0.5	
70	Provide ongoing and as-needed support  Sustainability Plan - Westside Purple Line Extension (PLE) Section 1	2017			Supporting project on an as needed basis		В, С, Е	
71	Provide ongoing and as-needed support	2017			Coordinating with the contractor for the May and June submittals.		B, C, E	
	Sustainability Plan - Westside Purple Line Extension (PLE) Section 2							
72	Provide ongoing and as-needed support	2017			Reviewing contractor's response to the January submittal; reviewing April and May submittals.		В, С, Е	
	Sustainability Plan - Rail 2 River				Francisco and technical advice on possibility of using DMD OAL program			
73	Provide ongoing and as-needed support	2017			Energy team gave technical advice on possibility of using DWP OAL program	*	В, С, Е	
	Westwood Greenway				Davida manta suttina bilita atuata ira fau balaina anno unitina anno unitina			
74	Provided ongoing support and first mile, last mile strategies	2015			Development sustainability strategies for helping communities connect to transit		B1, B4, C3	
	Environmental Attribute (Carbon Credit) Reporting and Sales							
75	Manage the Low Carbon Fuel Standard and Renewable Fuel Standard program	2016		2028	Metro sales are 9.5% above market average. In 2018 Metro sold 150,000 credits generating \$25M.		Е	
	LEED-EBOM for Gateway							
76	Pursue a LEED-EBOM Re-Certification based on new lighting and other measures	2015		2019	LEED recertification is pending completion of ongoing energy measures at gateway including building lighting and controls and garage.		A, B, C, D, E	
	Division 13 LEED Audit							
77	Conduct a LEED Audit at Division 13 to identify and address ongoing operational activities	2017			Report is being finalized. Findings have resulted in additional retro-Cx activities at Division 13		A, B, C, D, E	

	In Development Completed Continuous Improvement Board Motion 57 Related Items	Year Initiated	Current Status	Completion Date	Comments	SC(1)	Motion 57 Reference (2)(3)(4)(5)(6)(7)(8)	Reference Back to FY19 Initiatives
	Develop Enhanced Process for Commissioning and Retro-Commissioning of Facilities							
78	Implement process to reduce energy consumption through proper O&M of equipment/systems	2017		2018	Project is in development		A, B, C, D, E	
	Evaluate an Energy Management System (EMS/BMS) for Building to Reduce Energy Consumption							
79	Evaluate existing BMS systems to determine requirements for a enterprise-wide EMS system	2017		2018	Project is in development		A4, D1, D2, E	
	Conduct a Microgrid Study to determine the resiliency requirements for the Metro Power System							
80	Evaluate the system to determine if microgrids could keep critical infrastructure functioning	2016		2018	Project is in development. Working with city of Santa Monica on Bergamot Station Pilot		A4, D	Resiliency
	References:  (1) Presented to the Sustainability Council either as a stand alone item or part of an overall related report.  (2) Refer to Board Motion Item #57 by Garcetti, Kuehl, Ridley-Thomas, Solis, and Bonin Dated February 18, 20  (3) Each of the codes below refer to the items in Motion Item #57.  (4) Item "A" referrs to climate change and resiliency  (5) Item "B" refers to sustainable infrastructure strategies  (6) Item "C" refers to transit connectivity activities  (7) Item "D" refers to green technology and partnerships  (8) Item "E" refers to Metro Environmental Compliance and Sustainability activities	016.						

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	SC	DLID W	/ASTE &	RECYCLING			
Metro Board Motion (2016-0157)							
Reduce environmental liabilities related to hazardous waste	2016		2020	A review of 15 of Metro's waste related construction policies was completed in 2016 and recommendations for policy updates were identified. Recommendations to be implemented. On-going improvement related to the management of hazardous waste are being implemented quarterly.		A4, E	
Minimize Amount of Paper Waste and Related Consumables							
Evaluate paper saving initiatives	2016		2018		*	Е	
Reduce Stretch Wrap and Related Operations Waste							
Assess alternates to stretch wraps	2016		2018	A tech memo on the alternatives to stretch and sustainable shipping methods is in development and expected to be delivered in September 2018.		E	
Revise Metro's Environmentally Preferred Purchasing Policy							
Develop a "Green Team" to review product and develop consensus	2016		2018	the green purchasing program		D2, E	
	2016		2018	Being integrated into the Green Procurement program		D2, E	
A re-use program to include coffee cups, cleaning supplies, durable goods, electronics, etc.	2016		2018	Existing material reuse programs were identified through the Metro solid waste baseline assessment process. New programs for implementation are being proposed as part of the Waste Characterization Study for Gateway		E	
Evaluate Processes and Methods to Maximize Waste Diversion							
Evaluate Metro's Waste service levels to determine if service can be reduced	2016		2019	Service level evaluation is being conducted as part of the new solitation for waste collecting and disposal		B2, E	
Identify Key Recyclable Items in Waste Stream							
Develop a enterprise-wide recycling system	2016		2020	Waste characterization studies have been completed at Gateway, Division 7, and Division 11. Recyclable items to capture through program improvements have been identified. A recycling program is being implemented in fall 2018 at Gateway as a test case for the rest of the agency.		B2, E	
Improve Recycling Rates Through Operational Awareness and Signage							
Develop a enterprise-wide recycling system	2016		2020	Metro Communications was engaged in August 2018 to design new waste and recycling signage for the agency. Signage will be rolled out at Gateway first as part of the new recycling program.		B2, E	
·							
Evaluate improvements to the paint use and recycling process	2016		2020	Being reviewed as part of the wast mangement process		B2, E	
Prevent Contamination of Recyclable Through Training and Education  Develop and provide training sessions to Metro Staff	2016		2019	A custodial and general staff training program will be developed in fall 2018 to		D1, E	
Develop and Implement an Organic Waste Management System							
Conduct a pilot program for Organic Waste Collection	2016		2019	Organic recycling requirements were integrated into the new tree trimming contract in spring 2018. Similar requirements need to be added to the landscaping contract. An organics collection program will be developed with the Metro cafeteria in fall 2018.		B4, E	
Ensure Waste Management Policy is Compliant at State/Federal and Local Levels							
Evaluate and confirm Metro's Policies	2016		2019	Recycling SOP and Gateway Waste Management Guidelines need to be updated to reflect BMPs and state statutory requirements. Work to be completed in FY19, as budget allows.		В, Е	
Establish Metrics and Revise Policies for Demo/Construction/Renovation Projects for Compliance							
Expand requirements to ensure compliance during construction activities	2016		2028	ECSD incorporated as a pilot the Crenshaw Project into the Environmental Management System to capture best practices and gaps in environmental construction compliance. Director Solis, during the August 2018 Board meeting requested documentation and report back in a future meeting (no timing provided).		B, D, E	
	Metro Board Motion (2016-0157)  Reduce environmental liabilities related to hazardous waste  Minimize Amount of Paper Waste and Related Consumables  Evaluate paper saving initiatives  Reduce Stretch Wrap and Related Operations Waste  Assess alternates to stretch wraps  Revise Metro's Environmentally Preferred Purchasing Policy  Develop a "Green Team" to review product and develop consensus  Develop a Metro-wide environmentally Preferred Purchasing Program  ncrease Material Refurbishing and Re-Use  A re-use program to include coffee cups, cleaning supplies, durable goods, electronics, etc.  Evaluate Processes and Methods to Maximize Waste Diversion  Evaluate Metro's Waste service levels to determine if service can be reduced dentify Key Recyclable Items in Waste Stream  Develop a enterprise-wide recycling system  Meduce Paint Waste and Recycle Usable Paint  Evaluate improvements to the paint use and recycling process  Prevent Contamination of Recyclable Through Training and Education  Develop and provide training sessions to Metro Staff  Develop and implement an Organic Waste Management System  Conduct a pilot program for Organic Waste Collection  Ensure Waste Management Policy is Compliant at State/Federal and Local Levels  Evaluate and confirm Metro's Policies  Establish Metrics and Revise Policies for Demo/Construction/Renovation Projects for Compliance	Initiated Board Motion 57 Related Items  Solution Board Motion (2016-0157)  Reduce environmental liabilities related to hazardous waste  2016  Minimize Amount of Paper Waste and Related Consumables  Evaluate paper saving initiatives  2016  Reduce Stretch Wrap and Related Operations Waste  Assess alternates to stretch wraps  Revise Metro's Environmentally Preferred Purchasing Policy  Develop a "Green Team" to review product and develop consensus  Develop a Metro-wide environmentally Preferred Purchasing Program  2016  Develop a Metro-wide environmentally Preferred Purchasing Program  2016  To review product and develop consensus  Develop a Metro-wide environmentally Preferred Purchasing Program  2016  Evaluate Processes and Methods to Maximize Waste Diversion  Evaluate Metro's Waste service levels to determine if service can be reduced  dentify Key Recyclable Items in Waste Stream  Develop a enterprise-wide recycling system  2016  Reduce Paint Waste and Recycle Usable Paint  Evaluate improvements to the paint use and recycling process  Prevent Contamination of Recyclable Through Training and Education  Develop and Implement an Organic Waste Management System  Conduct a pilot program for Organic Waste Collection  2016  Ensure Waste Management Policy is Compliant at State/Federal and Local Levels  Evaluate and confirm Metro's Policies  Establish Metrics and Revise Policies for Demo/Construction/Renovation Projects for Compliance	Initiated   Status   South Output   South Output	Initiated   Status   Date	Solido WASTE & RECYCLING  Weter Beard Metrion (200 0137)  Beduse environmental liabilities related to hazardous waste  2016  2010  Well and the second of th	SOLID WASTE & RECYCLING  Water Brand Motion 2916-0937  Reduce environmental liabilities related to hazardous waste  2916  2915  Reduce environmental liabilities related to hazardous waste  2916  2916  Posible peper Waste and Related Consumables  2916  Posible peper saving initiatives  2916  2918  Reduce Province of the Province of the Application of the Innaugement of Application of Innaugement of Innaugement of Application of Innaugement o	SOLID WASTE & RECYCLING  ***Control Minimizer Amount of Pager Waste and Robited Consumable**  **Position programs of includes of processing or includes and excellent of the processing of the p

	ECSD PROGRAM AND INITIATIVE STATUS	S UPD/	ATE (Si	nce Sep	tember 2016 Response to Board Motion 57)			
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	Establish Baseline Metrics for Each Facility/Operation							
95	Collect and set baseline metrics for all facilities and existing programs	2016		2018	An agency wide solid waste baseline was finalized in Summer 2018 using the 2016 calendar year. The baseline will be updated in Fall 2018 to reflect additional information gathered through the Division waste characterization studies.	*	E	
	Develop a Comprehensive Solid Waste Performance Metrics System							
96	Develop a performance metrics system that ensure compliance with state/Federal and Local laws	2016		2018	Metrics tied to state and local laws were developed as part of the Metro baseline development process.	*	E	
	Standardize Solid Waste/Recycling Reporting Protocols into EMS							
97	Update EMS to include evaluation and monitoring protocols	2016		2019	Taking on the ongoing EMS efforts, ECSD staff is exploring opportunities of incoporation into the existing management system		B, D, E	
	Create Project Evaluation Tool to Rank/Prioritize Waste Management Initiatives							
98	Develop a policy, tool, and SOP	2016		2020	An Excel based tool was created to assist with ranking and prioritizing solid waste initiatives for implementation. The tool is being evaluated for implementation into projects.		B, D, E	
	Integrate Water and Energy Sectors to Find Program Collaboration Opportunities							
99	Collaborate within the Energy and Water Sector to identify outreach and education efforts	2016			Working directly with LADWP and SCE to identify collaboration opportunities for energy development, integration and rate structures.		B, D, E	
	Develop and Integrated Waste Management Hierarchy for Highest/best Use of Materials							
100	Develop and adopt an integrated waste management hierarchy (IWMH)	2016		2019	A proposed IWMH has been developed and presented to Metro. Metro to determine how the IWMH policy will be formally adopted.		E	
	Maximize Disposal Reduction using the IWMH							
101	Expand the IWMH with a focus on Material Recovery Facility (MRF)	2016		2019	Disposal reduction and diversion opportunities following the IWMH were identified through the waste characterization studies. Recommendations need to be prioritized for implementation based on the remaining program budget.		E	
	Report Annually on Waste Sector Initiatives and Successes							
102	Report the success of the program in the E&R Report	2016		7/1/2018	Reporting for the 2017 year is complete. This is an annual initiative and requires ongoing data monitoring and validation throughout the year.	*	B3, D1, E	
	References:  (1) Presented to the Sustainability Council either as a stand alone item or part of an overall related report.  (2) Refer to Board Motion Item #57 by Garcetti, Kuehl, Ridley-Thomas, Solis, and Bonin Dated February 18, 20  (3) Each of the codes below refer to the items in Motion Item #57.  (4) Item "A" referrs to climate change and resiliency  (5) Item "B" refers to sustainable infrastructure strategies  (6) Item "C" refers to transit connectivity activities  (7) Item "D" refers to green technology and partnerships  (8) Item "E" refers to Metro Environmental Compliance and Sustainability activities	16.						

	ECSD PROGRAM AND INITIATIVE STATUS UPDATE (Since September 2016 Response to Board Motion 57)								
	In Development Completed Continuous Improvement Board Motion 57 Related Items	Year Initiated	Current Status	Completion Date	Comments	SC(1)	Motion 57 Reference (2)(3)(4)(5)(6)(7)(8)	Reference Back to FY19 Initiatives	
				WATE	ER				
	Metro Board Motion (2016-0157)								
103	Conserve and reduce water usage	2016			Surveys and pilots to identify and test water conservation measures are underway.	*	B1, E		
104	Future construction projects to use methods to capture and treat stormwater/reclaimed water	2012			Incorporated into Metro Design Criteria and Technical Requirements	*	B, E		
105	Construction project (>\$5M) shall use sustainable building material  Draft 2015 Urban Water Management Plan	2012			Incorporated into Metro Design Criteria and Technical Requirements	*	B, E		
106	By 2017 reduce per capita potable water use by 20% (2025 - 2035)	2015			20% reduction in water use (from 2015 levels) was achieved in 2016, but consumption increased in 2017.	*	В, Е		
	Apply Diamond Seal System (DSS) to ALL Bus to Reduce Bus Washing								
107	Apply DSS to reduce dirt and residue build-up	2015		2017	Program implemented in 2016. Results showed no significant change in water use. Pilot discontinued		E		
	Retrofit BUS/CAR Wash Nozzles with Higher Efficiency Options								
108	Modify existing nozzles to reduce the amount of water needed to complete vehicle cleaning	2015			A pilot project is currently underway at Division 15 to test the water savings and cleanliness of buses using low-flow nozzle alternatives. 2.0 GPM is the baseline. A combination of 1.0 GPM and 0.5 GPM nozzles will be tested.		E		
	Adjust Sensors in Car Wash Areas to Limit Water Usage								
109	Modify the cycles to limit the amount of water used Before, During and After the Wash	2015			Timing adjustment pilots are being conducted at Division 7 and Division 9. Adjustments were made the week of 8/13/18.		E		
	Re-evaluate and Implement All 15 Water Conservation Strategies Outline in 2010 Action Plan				A tech memo assessing the 2010 Water Action Plan strategies and recommending				
110	Update all strategies to identify additional water conservation opportunities	2015			A tech mento assessing the 2010 water Auton Fain strategies and recommending updates based on current opportunities was submitted to Metro on 6.25.18. Strategies are being prioritized for implementation.	*	D, E		
	Restrict Irrigation with Potable Water				Irrigation study conducted in 2015. Initial review and study completed. A tech				
111	Research/evaluate options to reduce potable water use for irrigation	2015			Irrigation study confucted in 2015. Illustretive and study completed. A tech memo on an evaluation of irrigation along the Orange Line was submitted to Metro on 1.29.18. The next step is to develop a SOW for irrigation controller replacement and determine a funding mechanism for the annual network subscription. An irrigation plan for Division 15 has also been developed. Field work requires capital funding.	*	D, E		
	Adjust BUS/CAR Wash Blowers to Capture and Recover Wash Water								
112	Pilot studies to evaluate effectiveness of modifying blowers to conserve water  Reduce Water Consumption				Project still under development.		D, E		
113	Remove Ornamental Turf and Install Drought Tolerant Plants	2015		2018	A tech memo on the results of a Division survey and turf removal opportunities was submitted to Metro on 6/4/18. A work plan is being developed for implementing a turf removal project at Division 15. Implementation of drought tolerant and native landscaping for <u>new</u> construction has been in place since 2003.	*	B2		
114	Conduct a survey with a focus on upcoming renovations	2016		2017	Survey Completed.		B2		
	Retrofit Cooling Towers				Cooling towers, boilers, and chillers at Gateway are already being replaced by				
115	Complete study to improve water recycling and reduce cost of operations	2017		8/15/2018	General Services. This project is no longer necessary.		D, E		
	Replace Sanitary and Kitchen Fixtures				Continue and literary first upon house have a state of the District A COUNTY				
116	Identify existing fixtures to be replaced with high efficiency plumbing fixtures	2017		2019	Sanitary and kitchen fixtures have been audited at the Divisions. A SOW is being developed for a pilot at Division 15 identifying the recommended make/model of the fixtures and project cost.		D, E		
-	Track Water Consumption for Individual Operations								
117	Prioritize water conservation efforts based on survey of Metro facilities	2015		Ongoing	Water use is currently being tracked for all facilities, but data validation and improvements to the tracking system are ongoing efforts. Sub-meters have been installed on the Division 7, 9, 15, and 24 bus washes to improve water tracking capabilities.		B, D, E		
•	Identify Opportunities for Graywater Use								

ECSD PROGRAM AND INITIATIVE STATUS UPDATE (Since September 2016 Response to Board Motion 57)
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118	Conduct study to determine if graywater retrofits are suitable for Metro Facilities	2017		3/30/2018	A tech memo on opportunities for Metro to retrofit existing properties for graywater was submitted to Metro on 3/30/18. Exploring how to fund implementation.		B2, B4, E	
	Increase Capture of Storm Water Runoff for Use in Landscaped Areas							
119	Increase bio-retention tech., permeable pavement, vegetated swales and infiltration trenches	2017			A tech memo evaluating strategies to capture and store stormwater was submitted to Metro on $5/3/18$ . Recommendations to be reviewed by ECSD and prioritized for implementation.		B1, B2, E	
	Require Existing Facilities to use Technologies to Capture, Reuse and Treat Storm Water Onsite							
120	Implement best management practices regarding storm water recapture and reclamation	2016		2019	Has been a best practice since 2003 in major capital projects. Current state and local requirements are being implemented on projects within Metro rights of way but has been in discussion with City and County of LA in other jurisdictions. LA Metro is inclined to install but not maintain these Low Impact Development strategies at locations other than Metro rights-of-way.	*	B1, B2, E	
	Educate Public on Water Conservation and Water Database							
121	Information shall be shared with the public via website and other outlets	2017			Metro ECSD website has information including annual reports that serve as information. We also have an opportunity to increase awareness through Green Workforce training and on-site program information panels at stations and projects like Division 4 permeable pavement.	*	D1, E	
	Educate Staff on Water Usage and Conservation Through Training							
122	Develop and integrate content for training staff on water usage and conservation strategies	2017			We also have an opportunity to increase awareness through Green Workforce training and quarterly Metro ENV SP and G-Pro certified Metro staff.		D1, E	
	Identify Funding Opportunities and Collaborate With Local and State Agencies Water Projects							
123	Identify external funding sources for water-related projects	2017			In current conversation with P3, city, and other entities on possible funding opportunities for these types of projects.		E	
	Maximize Use of Recycled Water	2015			A work plan for the cross connection test at Division 3 has been prepared and submitted for review. Metro to determine who will complete this test.		22.22.24.5	
124	Develop a Recycled Water Plan	2015			Opportunity to connect Orange Line irrigation at Chandler and Colfax has been identified and is being scoped out.		B2, B3, D1, E	
125	Evaluate the feasibility and cost effectiveness of using recycled water (Purple Pipe)	2015			Purple pipe installed in capital projects such as Metro Orange Line MOL and MOL Extension. Metro has participated in the LADWP Integrated Water Resource Planning Process, City-wide One Water LA initiative, and the LA Sanitations Bluebelt research projects to develop opportunities for recycled water in multiple LA Meto facilities. Infrastructure has been built in MOL and MOL extension, but recycled water in limited use due to limited supply. Opportunities have been identified and need to be followed-up.		B2, B3, D1, E	
	Upgrade Metro Resiliency in Terms of Water Supplies for Catastrophic Events							
126	Increase emergency water supply at Divisions and Locations	2018			Working with Emergency Management Department on a path forward.		A4, B, D1, E	
127	Implement Green Construction Policies Governing New/Future Metro Divisions  Leverage existing policies, ordinance, and regulations requiring the technologies that capture, treat and infiltrate storm water	2017			Expand implementation into existing facilities. Currently a requirement in new facilities.		A4, B, D1, E	
	Increase Existing underground Storage Capacity for Storm Water							
128	Assess the usage of storm water capture cisterns to reduce the use of potable water	2017		2019	Implemented in several facilities. A tech memo evaluating underground storage of stormwater system-wide was submitted to Metro on 5/3/18. Recommendations currently being reviewed by ECSD staff		A4, B, D1, E	

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