



# Agenda

## Metro Sustainability Council

LA Metro HQ  
William Mulholland  
15<sup>th</sup> Floor  
One Gateway Plaza  
Los Angeles, CA

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### Meeting Goals

1. Roll-out and Approve Metro Roles, Amendments and Responsibilities in Council
2. Provide report back on Metro activities relative to Motion 57
3. Identify Council Topics of Interest for Calendar Year

### Agenda

- a. Roll Call: 5 minutes
  - b. Council Chair Report: Global Climate Action Summit/Zero Emission 2028 Roadmap: 10 minutes (Small)
  - c. Metro Roles and Responsibilities: 10 minutes (Wiggins, Clarke)
  - d. Motion to Amend By-Laws: 10 minutes (Wiggins)
  - e. Metro Report on Activities Relative to Motion 57: 45 minutes (Liban)
  - f. FY19: Agenda Setting and Goals: 30 minutes (All)
  - g. Adjourn
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### **Motion to Amend the By-Laws of the LA Metro Sustainability Council**

By LA Metro Sustainability Council Members Cris B. Liban, Debra Avila, Paul Backstrom, etc.

In an effort to be consistent with the process and procedures of other Metro Advisory Councils that were formed to implement the Capital and Funding programs at LA Metro since the passage of Measure M, be it resolved that:

- The by-laws of the Metro Sustainability Council will be amended to reflect LA Metro membership in the Sustainability Council to be changed to the status of *ex officio*;
- The total number of Council seats will be reduced from 30 to 27, with 24 currently representing constituencies of specific sectors;
- Specific representation and fulfillment of vacancies for the current four vacant Council seats will be determined during a future meeting of the Sustainability Council.

So moved.



# Metro

September 17, 2018

## **Metro Sustainability Council Members**

### **RE: Announcement of Changes in the Operation of the Council**

Dear Council Members,

Thank you for your continued participation and interest as a member of Metro's inaugural Sustainability Council. As many of you may be aware, during the summer break, Metro Executive Management received feedback from various members of the Council which prompted us to reflect on the first year of activities and accomplishments of the Council, including:

- Development of four subcommittees that enhance each our Council's diverse interest and expertise to examine regional sustainability challenges, strategize on complementary and supplementary solutions, and ease solutions implementation. These subcommittees include a) LA 2027 that is designed to provide Sustainability Council vision and calendar of activities ahead of the 2028, b) Strategic Partnerships that is designed to identify and breakdown challenges to seamless sustainability collaboration amongst various regional sectors; c) Electrification to work with Metro on the fulfillment of its 2030 zero emissions bus fleet and non-revenue fleet goals; and d) Resource and Environmental Management to identify any other opportunities to reduce Metro's environmental impacts during the implementation of its comprehensive capital program.
- Receive and File by the Metro Board of Directors of the Regional Advanced Mitigation Program (RAMP) Report that fulfills the Board's request to identify RAMP opportunities and work closely with regional partners to advance RAMP principles. This document was the first work product collaborated on, reviewed, and approved by the Metro Sustainability Council.
- Participation of the Metro Sustainability Council in three major 2018 Earth Day events to create awareness of Council activities as well as Metro's efforts towards regional sustainability. These events include 1) the Council's support of the Children's Earth Day Celebration at the Grand Park, 2) coordination and collaboration with the City of LA Bureau of Sanitation of their Earth Day celebration at the Highland Park Recreation Center, and 3) participation as a Metro Council Panel at the US Green Building Council 2018 Municipal Green Building Conference and Expo.

The opportunity to maximize environmental and community benefits across a wide range of Metro activities through the Sustainability Council forum is important. This letter is to introduce

new changes and procedures to the Council. To ensure that the Council meets the intent of the Metro Board, below are changes to the operation of the Council:

Metro Executive Management (Deputy CEO Stephanie Wiggins and Chief of Program Management Rick Clarke) will now play an active role to support Cris Liban and the Sustainability Council Chair by facilitating the Council Meetings, beginning with the next meeting on September 21st;

In order to ensure consistency with Metro's other Advisory Councils, we will take an *ex officio* role in the Sustainability Council as well. This decision affects all of the three seats (and alternates) that Metro currently occupies in the Council including those by the Environmental Compliance and Sustainability Department, Vendor/Contract Management Department, and Planning Department. Procedurally, our decision to take on an *ex officio* role would need an amendment to the Council By-Laws that need to be passed by a majority vote by all eligible Council members present during the September 21st meeting. As such, the first action item on the agenda will be a motion to this effect and we respectfully ask for an "aye" vote.

- Metro staff will continue to assist in the administration of Council activities during and in-between Council meetings. However, Aaron Santos (SantosAa@metro.net) from our CEO's office will be the point of contact for all Council communications in lieu of Dilara Rodriguez. We appreciate the work and effort from Dilara over the last year but the elevation to Executive Management requires administrative support from the CEO's office.
- The work plan for this fiscal year will be based on a Meetings Arc. A calendar of meetings will be developed that clearly lays out how each meeting serves to move us forward to ultimately reach our goals outlined in Motion 57.
- Agenda Formation – The agenda will include three to five top line priority outcomes. And will include specific time and presenter for each item. Prior to each meeting, we will develop this draft agenda that will be discussed with the Sustainability Council Executive Committee. Once the agenda is approved by the Executive Committee, it will be distributed to the Council three to five days prior to the scheduled Council meeting.

### **BENEFITS TO THE COUNCIL**

The changes above will result in the following benefits to the Council members:

- Provide staff-informed recommendations directly to Metro's Executive Leadership and Board of Directors;
- Reinforce the time for meaningful input on agenda topics by providing Council members the materials three to five days in advance.
- For each policy area that is advanced for a Council meeting, Council members will:

- A. Hear presentations about: 1) current legal minimum requirements; 2) Metro's practices (whether they go above and beyond legal minimums); 3) best practices in the field (who is doing what/where, and how is it working); and 4) what are Metro-specific challenges;
- B. Have a meaningful discussion to develop policy recommendations about what Metro's practices, policies, and metrics should be.

We are grateful for your continued service and interest on the activities of Metro and welcome your continued input as we fulfill our commitments to create a sustainable Los Angeles.

**Please find attached the agenda for the upcoming Sustainability Council Meeting.**

Sincerely,



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Richard Clarke  
Chief Program Management Officer



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Stephanie Wiggins  
Deputy Chief Executive Officer

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

Reference #	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
<b>CLIMATE CHANGE &amp; RESILIENCY</b>								
	<b>ISO 14001:2015 Certification and Implementation</b>			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		2018	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		2018	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	2017		2019	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	
<b>Resiliency Framework</b>								
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		A3	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
<b>Climate Action &amp; Adaptation Plan (CAAP)</b>								
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			2012	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		May-14	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.		A3	Climate Action Plan Update
<b>Metro Board Motion (2016-0157)</b>								
18	Increase agency infrastructure resiliency	2017		2019	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
<b>Metro's Urban Greening Implementation Action Plan</b>								
19	Project-specific Sustainability Coordinator	2016		2028	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	
<b>Regional Advance Mitigation Planning (RAMP) Document</b>								
21	Metro Regional Advance Mitigation Needs and Feasibility Assessment	2017		2018	Assessment document provided to the Metro Board in July 2018.	*	E	
22	Develop White Paper: Integrating Mitigation, Carbon Sequestration and Ecosystem Services at Community Relevant Scales	2017		2018	Being updated to reflect urban greening opportunities.		E	

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Continuous Improvement	Board Motion 57 Related Items							
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	
<b>Green Procurement Policy, Framework and Implementation</b>		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
<b>Metro Sustainability Implementation Plan (MCIP)</b>		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.		A, C	
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.		A, C	Climate Action Plan Update
<b>LACMTA Green Construction Policy specification</b>								
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
<b>Metro Climate Vulnerability and Risk Assessment</b>		2016				*	A	
28	Update document to meet current standards	2017		2019	In development. Covered in the 2012 CAAP and being updated for ~2019 CAAP	*	A	Climate Action Plan Update, Green Procurement, Resiliency
<b>Update and Rebaseline the Metro Rail Design Criteria (MRDC)</b>		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
<b>Update and Rebaseline the Bus Rapid Transit (BRT)</b>		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
<b>Create relationships with external stakeholders regarding climate change</b>								
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	
<b>Establish a program for compiling new technologies and engineering solutions</b>		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 organizations including outside organizations 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, OEL, and across Metro.		D1	
<b>Develop an Annual Sustainability Report (Energy and Resources Report)</b>								
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
<b>Maintain Metro's Environmental Training Institute (ETI)</b>		2013			In place as part of Metro Environmental Management System	*	D1	
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	
<b>Incorporate Sustainability plans into metro's Project Development Plans</b>								

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In Development	Green															
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35	Sustainability Plans will be incorporated into project development for ALL construction projects	2016	Green	2018	ECSD is continually working with Project Management and Construction staff to enforce the development and implementation of sustainability plan.	*	B, C									
<b>Strengthen and Expand Metro's Green Construction Policy (GCP)</b>																
36	Review GCP to identify opportunities to expand and strengthen Specifications Section 01 35 66	2016	Purple		Continually being improved and updated.	*	B, C	Climate Action Plan Update, Green Procurement, Resiliency								
<b>Update and Implement Metro's Sustainability Program and Project Plan</b>		2016	Purple													
37	Ongoing management and support for the sustainability program and projects	2016	Purple		ECSD management and staff are dedicated to supports Metro's sustainability programs and projects, both on Capital projects and O&M	*	B, C, E									
<b>References:</b> (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, 2016. (3) Each of the codes below refer to the items in Motion Item #57. (4) Item "A" refers 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																



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In Development	Green															
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Continuous Improvement	Purple															
Board Motion 57 Related Items	Orange															
<b>ENERGY</b>																
38	<b>Energy Management Action Plan (EMAP)</b>	2016			Working through this process within the EMS. Completing an Energy Resiliency White Paper to feed into a Metro Resiliency Policy.		D									
<b>Metro Board Motion (2016-0157)</b>																
39	Reduce facility energy use/cost by 2020	2017		2020	Developing baseline for energy-use intensity to account for facility growth	*	D									
40	Increase fuel efficiency	2015		2020	ZEV transitions will increase fuel efficiency	*	A4, D	Resiliency								
41	Increase energy efficient lighting	2010		2020	Various lighting upgrades in progress	*	A4, D	Resiliency								
42	Increase Propulsion and Auxiliary Systems	2013			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								
<b>Electric Vehicle (EV) Charging Program</b>																
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									
<b>Bus Electrification Program</b>																
47	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								
<b>Gateway LED Lighting and advanced lighting controls</b>																
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									
53	<b>Central Maintenance Facility Building 5 Air Scrubber</b>	2016		2018	Finalizing solicitation package. Pre-Bid Conference and Job Walk scheduled for August 29, 2018.		A4, D, E									
<b>Comprehensive Energy Efficiency Project Portfolio (BUS)</b>																
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									
<b>Division 18 Energy Retrofit Project Portfolio</b>																
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									
<b>103rd Watts Outdoor Area Lighting</b>																
57	Design and Install energy efficient Outdoor Area Lighting (OAL) service	2016			Pilot project was completed on February 11, 2018. Ten-year cost savings = \$41,118.		A4, D, E									
<b>Gateway Parking Garage Variable Frequency Drive (VDRs)</b>																
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									
<b>Division 30 Energy Efficiency Project Package Portfolio</b>																
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									
<b>Comprehensive Energy Efficiency Project Portfolio (RAIL)</b>																
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									
<b>Community Solar and Clean Powers Authority</b>																

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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			
<b>Conjunctive Billing and Direct Access</b>											
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			
<b>Power Purchase Agreement (PPA) 1</b>											
63	PPA to install PV/Roof Repairs at Division 9, 11, 14 and 22	2016		2019	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			
<b>Bus Yard Canopy Conceptual Design</b>											
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			
<b>Biomethane Procurement</b>											
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				
<b>Photovoltaic Preventative Maintenance</b>											
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				
<b>Measurement and verification (M&amp;V) of Wayside Energy Storage System (WESS)</b>											
67	M&V data on the effectiveness of the flywheel storage system in storing energy				Data is currently generated		D, E				
<b>Pathways to Zero Net Energy (PZNE)</b>											
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				
<b>Sustainability Plan - Energy Security Operations Center (ESOC)</b>											
69	Provide ongoing and as-needed support	2017			Supporting project on an as needed basis		B, C, E				
<b>LOC64 Sustainability Plan</b>											
70	Provide ongoing and as-needed support	2017			Supporting project on an as needed basis		B, C, E				
<b>Sustainability Plan - Westside Purple Line Extension (PLE) Section 1</b>											
71	Provide ongoing and as-needed support	2017			Coordinating with the contractor for the May and June submittals.		B, C, E				
<b>Sustainability Plan - Westside Purple Line Extension (PLE) Section 2</b>											
72	Provide ongoing and as-needed support	2017			Reviewing contractor's response to the January submittal; reviewing April and May submittals.		B, C, E				
<b>Sustainability Plan - Rail 2 River</b>											
73	Provide ongoing and as-needed support	2017			Energy team gave technical advice on possibility of using DWP OAL program	*	B, C, E				
<b>Westwood Greenway</b>											
74	Provided ongoing support and first mile, last mile strategies	2015			Development sustainability strategies for helping communities connect to transit		B1, B4, C3				
<b>Environmental Attribute (Carbon Credit) Reporting and Sales</b>											
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.		E				
<b>LEED-EBOM for Gateway</b>											
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				
<b>Division 13 LEED Audit</b>											
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				

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<b>Develop Enhanced Process for Commissioning and Retro-Commissioning of Facilities</b>																
78	Implement process to reduce energy consumption through proper O&M of equipment/systems	2017	Green	2018	Project is in development		A, B, C, D, E									
<b>Evaluate an Energy Management System (EMS/BMS) for Building to Reduce Energy Consumption</b>																
79	Evaluate existing BMS systems to determine requirements for a enterprise-wide EMS system	2017	Green	2018	Project is in development		A4, D1, D2, E									
<b>Conduct a Microgrid Study to determine the resiliency requirements for the Metro Power System</b>																
80	Evaluate the system to determine if microgrids could keep critical infrastructure functioning	2016	Green	2018	Project is in development. Working with city of Santa Monica on Bergamot Station Pilot		A4, D Resiliency									
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<b>SOLID WASTE &amp; RECYCLING</b>																
<b>Metro Board Motion (2016-0157)</b>																
81	Reduce environmental liabilities related to hazardous waste	2016	Green	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									
<b>Minimize Amount of Paper Waste and Related Consumables</b>																
82	Evaluate paper saving initiatives	2016	Green	2018	Paper saving initiatives have been identified through Division waste characterization studies, facility walk-throughs, and staff interviews. Opportunities need to be reviewed and prioritized for implementation.	*	E									
<b>Reduce Stretch Wrap and Related Operations Waste</b>																
83	Assess alternates to stretch wraps	2016	Green	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									
<b>Revise Metro's Environmentally Preferred Purchasing Policy</b>																
84	Develop a "Green Team" to review product and develop consensus	2016	Green	2018	This task is being removed from the solid waste program and addressed as part of the green purchasing program		D2, E									
85	Develop a Metro-wide environmentally Preferred Purchasing Program	2016	Green	2018	Being integrated into the Green Procurement program		D2, E									
<b>Increase Material Refurbishing and Re-Use</b>																
86	A re-use program to include coffee cups, cleaning supplies, durable goods, electronics, etc.	2016	Green	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									
<b>Evaluate Processes and Methods to Maximize Waste Diversion</b>																
87	Evaluate Metro's Waste service levels to determine if service can be reduced	2016	Green	2019	Service level evaluation is being conducted as part of the new solicitation for waste collecting and disposal		B2, E									
<b>Identify Key Recyclable Items in Waste Stream</b>																
88	Develop a enterprise-wide recycling system	2016	Green	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									
<b>Improve Recycling Rates Through Operational Awareness and Signage</b>																
89	Develop a enterprise-wide recycling system	2016	Green	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									
<b>Reduce Paint Waste and Recycle Usable Paint</b>																
90	Evaluate improvements to the paint use and recycling process	2016	Green	2020	Being reviewed as part of the waste management process		B2, E									
<b>Prevent Contamination of Recyclable Through Training and Education</b>																
91	Develop and provide training sessions to Metro Staff	2016	Green	2019	A custodial and general staff training program will be developed in fall 2018 to support the roll out of the Gateway recycling program.		D1, E									
<b>Develop and Implement an Organic Waste Management System</b>																
92	Conduct a pilot program for Organic Waste Collection	2016	Green	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									
<b>Ensure Waste Management Policy is Compliant at State/Federal and Local Levels</b>																
93	Evaluate and confirm Metro's Policies	2016	Green	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.		B, E									
<b>Establish Metrics and Revise Policies for Demo/Construction/Renovation Projects for Compliance</b>																
94	Expand requirements to ensure compliance during construction activities	2016	Purple	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									

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<b>Establish Baseline Metrics for Each Facility/Operation</b>																
95	Collect and set baseline metrics for all facilities and existing programs	2016	Yellow	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									
<b>Develop a Comprehensive Solid Waste Performance Metrics System</b>																
96	Develop a performance metrics system that ensure compliance with state/Federal and Local laws	2016	Yellow	2018	Metrics tied to state and local laws were developed as part of the Metro baseline development process.	*	E									
<b>Standardize Solid Waste/Recycling Reporting Protocols into EMS</b>																
97	Update EMS to include evaluation and monitoring protocols	2016	Purple	2019	Taking on the ongoing EMS efforts, ECSD staff is exploring opportunities of incorporation into the existing management system		B, D, E									
<b>Create Project Evaluation Tool to Rank/Prioritize Waste Management Initiatives</b>																
98	Develop a policy, tool, and SOP	2016	Yellow	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									
<b>Integrate Water and Energy Sectors to Find Program Collaboration Opportunities</b>																
99	Collaborate within the Energy and Water Sector to identify outreach and education efforts	2016	Green		Working directly with LADWP and SCE to identify collaboration opportunities for energy development, integration and rate structures.		B, D, E									
<b>Develop and Integrated Waste Management Hierarchy for Highest/best Use of Materials</b>																
100	Develop and adopt an integrated waste management hierarchy (IWMH)	2016	Green	2019	A proposed IWMH has been developed and presented to Metro. Metro to determine how the IWMH policy will be formally adopted.		E									
<b>Maximize Disposal Reduction using the IWMH</b>																
101	Expand the IWMH with a focus on Material Recovery Facility (MRF)	2016	Green	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									
<b>Report Annually on Waste Sector Initiatives and Successes</b>																
102	Report the success of the program in the E&R Report	2016	Yellow	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									
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<b>WATER</b>																
<b>Metro Board Motion (2016-0157)</b>																
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	2012			Incorporated into Metro Design Criteria and Technical Requirements	*	B, E									
<b>Draft 2015 Urban Water Management Plan</b>																
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.	*	B, E									
<b>Apply Diamond Seal System (DSS) to ALL Bus to Reduce Bus Washing</b>																
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									
<b>Retrofit BUS/CAR Wash Nozzles with Higher Efficiency Options</b>																
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									
<b>Adjust Sensors in Car Wash Areas to Limit Water Usage</b>																
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									
<b>Re-evaluate and Implement All 15 Water Conservation Strategies Outline in 2010 Action Plan</b>																
110	Update all strategies to identify additional water conservation opportunities	2015		6/25/2018	A tech memo assessing the 2010 Water Action Plan strategies and recommending updates based on current opportunities was submitted to Metro on 6.25.18. Strategies are being prioritized for implementation.	*	D, E									
<b>Restrict Irrigation with Potable Water</b>																
111	Research/evaluate options to reduce potable water use for irrigation	2015			Irrigation study conducted in 2015. Initial review 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									
<b>Adjust BUS/CAR Wash Blowers to Capture and Recover Wash Water</b>																
112	Pilot studies to evaluate effectiveness of modifying blowers to conserve water				Project still under development.		D, E									
<b>Reduce Water Consumption</b>																
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 <i>new</i> construction has been in place since 2003.	*	B2									
114	Conduct a survey with a focus on upcoming renovations	2016		2017	Survey Completed.		B2									
<b>Retrofit Cooling Towers</b>																
115	Complete study to improve water recycling and reduce cost of operations	2017		8/15/2018	Cooling towers, boilers, and chillers at Gateway are already being replaced by General Services. This project is no longer necessary.		D, E									
<b>Replace Sanitary and Kitchen Fixtures</b>																
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									
<b>Track Water Consumption for Individual Operations</b>																
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									
<b>Identify Opportunities for Graywater Use</b>																

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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	
<b>Increase Capture of Storm Water Runoff for Use in Landscaped Areas</b>								
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	
<b>Require Existing Facilities to use Technologies to Capture, Reuse and Treat Storm Water Onsite</b>								
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	
<b>Educate Public on Water Conservation and Water Database</b>								
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	
<b>Educate Staff on Water Usage and Conservation Through Training</b>								
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	
<b>Identify Funding Opportunities and Collaborate With Local and State Agencies Water Projects</b>								
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	
<b>Maximize Use of Recycled Water</b>								
124	Develop a Recycled Water Plan	2015		2019	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.  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 Metro 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	
<b>Upgrade Metro Resiliency in Terms of Water Supplies for Catastrophic Events</b>								
126	Increase emergency water supply at Divisions and Locations	2018			Working with Emergency Management Department on a path forward.		A4, B, D1, E	
<b>Implement Green Construction Policies Governing New/Future Metro Divisions</b>								
127	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	
<b>Increase Existing underground Storage Capacity for Storm Water</b>								
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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