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EQUITY METRICS DATA INITIATIVE

May 16, 2017

Putting Customers First

What are Equity Metrics?

- Indicators that provide policymakers and program managers with data to assess how well programs, services, resources, and investments are distributed and utilized geographically and demographically
- Allow managers to modify policies, programs, and services to track toward equitable outcomes
- On August 16, 2016, the Board of Water and Power Commissioners' (Board) approved Resolution No. 017036 establishing the LADWP's Equity Metrics Data Initiative (EMDI)
- On December 6, 2016, the Board approved Resolution No. 017107 finalizing fifteen (15) equity metrics within four core categories

LADWP Equity Core Areas & Programs

Equity Core Category	Metric
Water & Power Infrastructure Investment	 Water Quality Complaints Water System Probability of Failure & Planned Replacements SAIDI & SAIFI Power System Reliability Program (PSRP) – Pole, Transformer, Cable Replacements
Customer Incentive Programs/Services	 Rain Barrel/Cistern/Water Tank Rebates Turf Removal Rebates Tree Canopy Program Commercial Direct Install Program Home Energy Improvement Program Refrigerator Exchange Program Consumer Rebate Program Electric Vehicle Infrastructure Low Income & Lifeline Programs
Procurement	14. LADWP SBE/DVBE Program
Employment	15. New Hire/Promotion Demographics

Residential Water and Power Reliability Core Area Example - Power Reliability

Reliability indices are used to measure the reliability performance of LADWP's distribution system in a 12-month rolling average.

District	SAIFI	SAIDI	CAIDI
Northridge	0.64	62.56	97.05
Van Nuys	0.65	83.75	128.09
West Los Angeles	1.22	172.88	141.81
Palm	0.97	149.95	154.82
Lincoln Heights	0.78	101.15	129.06
Central	1.08	148.56	138.15
Wilmington	1.05	116.11	110.22

System Average Interruption Frequency

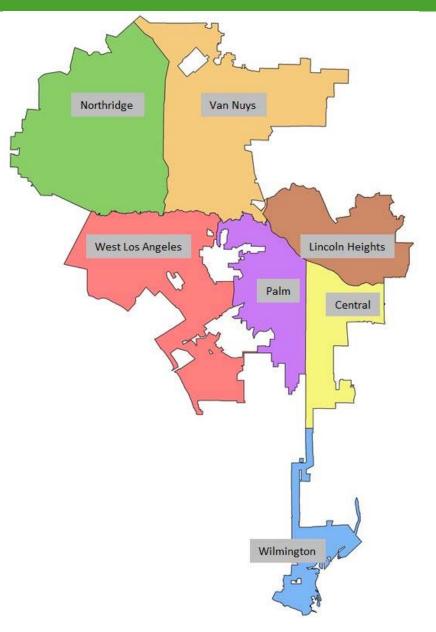
Index (SAIFI): Average # of interruptions per year for the system

System Average Interruption Duration Index

(**SAIDI**): Average # of minutes a customer power is out in a year for the system

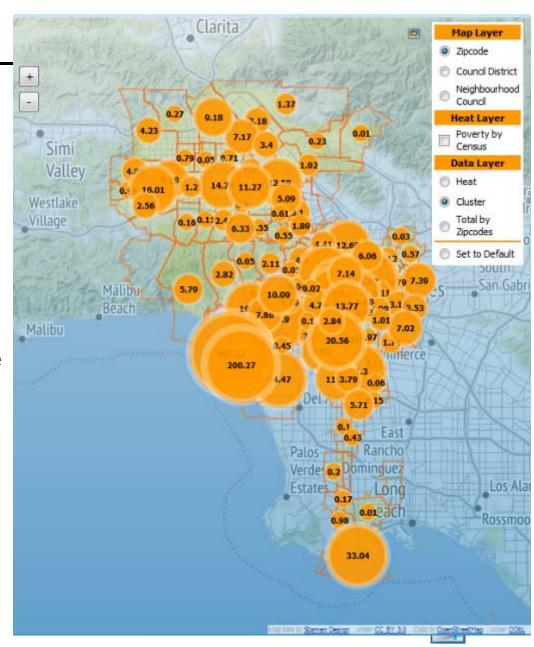
Customer Average Interruption Duration

Index (CAIDI): For customers that have a power outage, the average # of minutes that it takes to restore service



SAIDI

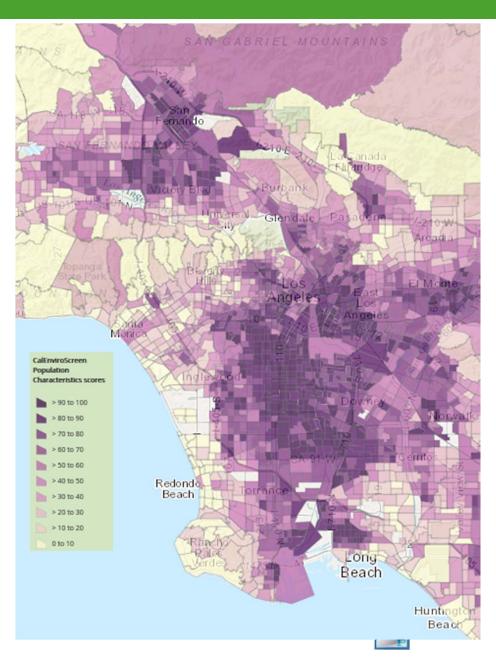
- System Average Interruption
 Duration Index (SAIDI) for Dec
 2016. It is the average outage duration for each customer served per year
- High outage duration in Venice area is due to Los Angels Fire Department request to de-energize
 5 circuits for 12 hours
- Data collection points increased from 10,000 to over 1 million per year (4 months effort)



CalEnviroScreen Poverty Characteristic Map

- This CalEnviroScreen map represents the Poverty Indicator from the set of Population Characteristic Indicators. We will use this as one of the base maps for Equity Metrics
- Source: Office of Environmental Health Hazard Assessment (OEHHA)

http://oehha.ca.gov/calenviroscreen

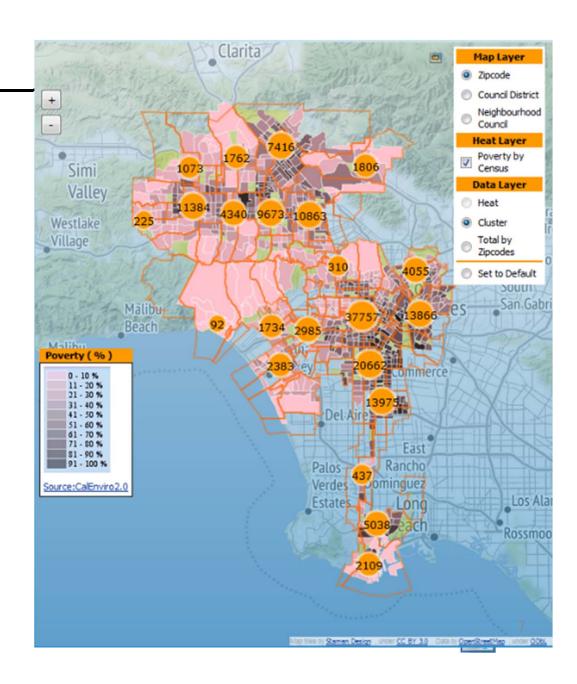


Low Income Program

Customers may qualify to have a discount applied to their electric and/or water bills based on their income and household size

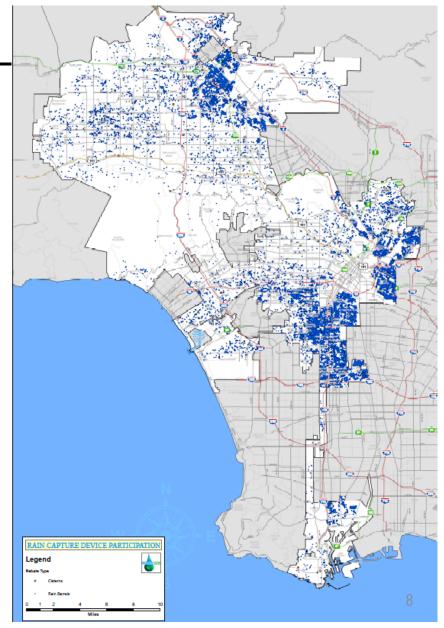
Household Income Requirements – Effective July 1, 2016

Members in	Maximum Annual		
Household	Gross Income*		
1	\$32,040		
2	\$32,040		
3	\$40,320		
4	\$48,600		
5	\$56,880		
6	\$65,160		
7	\$73,460		
8	\$81,780		
Each additional	Add \$8,320 to		
member:	income		



Rain Barrel/Cistern/Water Tank Rebates

- LADWP provides residential customers rebates for up to two 50gallon rain barrels or one cistern
- Rain capture device for FY 16-17 YTD



Data Issues

- More Granular Data Needed for Heat Map
 - SAIFI & SAIDI Data from 10k to over 1Mil per year
 - 4 Months Effort
- Address
 - No Central Source
 - Constantly Changing People Move
 - Synchronize Address between County, City, USPS
- Geo Coding
 - Time Consuming
 - Address Mismatch

Community Solar: Addressing Solar Access

Disparity in LA

• SIP 200-2015

Per capita solar incentives for residential customers

By zip code

\$0.12 - \$2.00

\$2.01 - \$7.00

\$7.01 - \$14.26*

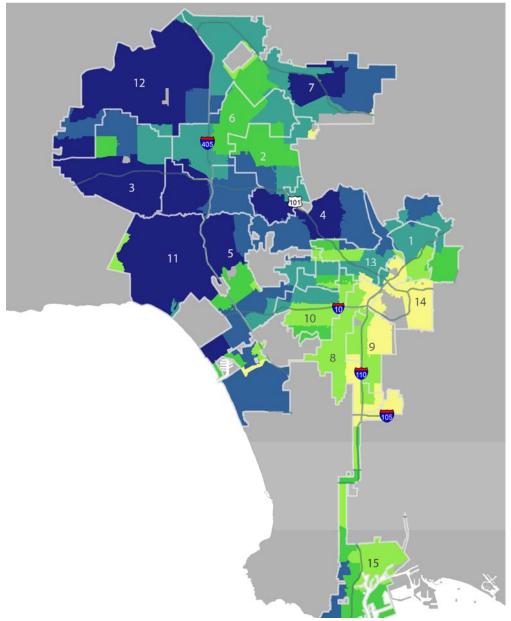
\$14.27 - \$32.76

\$32.77 - \$75.00

\$75.01 - \$197.74

*Median per capita incentive is \$14.26

LA City Council District Boundaries



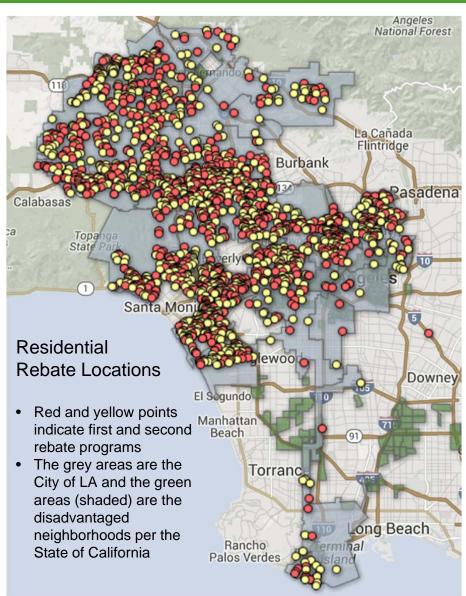
Projects & Services/Customer Incentives Core Area Example - EV Infrastructure

DWP is a Top Supporter of EV Infrastructure in California

- Completed first and second rebate program (2011 to 2016)
- Over 300 level 2 chargers on City Property (100 public)
- 16 DC Fast Chargers (20 min charge), including Zoo and LAX
- Residential rebates for 5 years
- Commercial rebates for 2.5 years
- Discount EV rates

Proposed New Charger Rebate Program

- Effective March 1, 2016 through June 30, 2018
- Residential Customers
- Commercial Customers
- Disadvantaged Neighborhood Ride-Share Program
- LADWP to Monitor Rebate Locations



Sample Dashboard Reports

LADWP RATES METRIC - Total Renewal Portfolio Standard (Power)

RESPONSIBLE MANAGER: Anton Vu, Power and Fuel Purchase REPORTING PERIOD: January 2017

DEFINITION OF RATES METRIC: GWH from RPS Resource/GWH Of Retail Sales (State Requirement), In Percentages (%)

TARGET & ACCEPTABLE VARIANCE (FY 16/17): Target = 27% for calendar year 2017; Acceptable Variance = ± 3%

STATUS:		eeds Targ		
CYTD	Planned	Actual	Variance	Re-Estimate
as of:	(%)	(%)	%	(If Applicable)
Sep 16	24.5	30.0	5.5%	
Dec 16	25.0	29.1	4.1%	
Mar 17	25.0			30.2
Jun 17	26.0			30.2
Acceptab	le Variance		± 3%	4.2%



SOURCE OF DATA: Wholesale Energy Resource Management Group (KPI # 05.01.01.01)

1. BACKGROUND / PURPOSE

- LADWP is on target to meet the 33% Renewable Portfolio Standard (RPS) ratio requirement in 2020 and 50% in 2030, as required by the California Energy Commission (CEC).
- RPS portfolio includes Wind, Solar, Biogas, Geothermal, and Small Hydro.
- Actuals for March 2017 will be available in May 2017.
- There are other RPS-related Rates Metric Reports for Wind, Solar, Biogas, and Geothermal.

2. ACHIEVEMENTS / MILESTONES MET

 Multiple solar projects have come online in 2016 including Springbok 1 (100 MW), Springbok 2 (150 MW), Recurrent Cinco (60 MW), Moapa (250 MW), Beacon 3 (56 MW), and Beacon 4 (50 MW).

3. PERFORMANCE / VARIANCE ANALYSIS & YEAR END PROJECTION

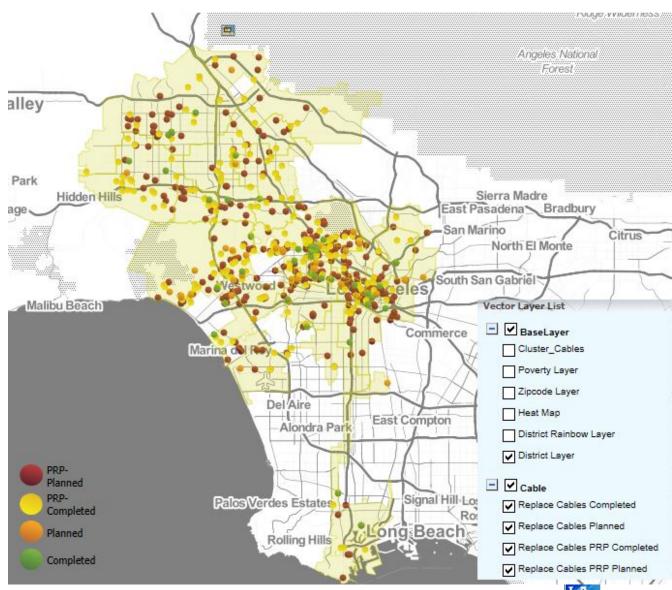
 LADWP met the 25% Renewable Portfolio Standard (RPS) ratio requirement by December 31, 2016, as required by the CEC. Due to changes and uncertainty in CEC's method of calculation of RPS resources this year, LADWP acquired additional resources to ensure compliance.

4. MITIGATION PLAN AND / OR RECOMMENDATIONS

- Uncertainty in performance of renewable resources, evolving accounting methods, changing regulations, and transmission disruptions are risk factors that can impact the performance of this metric.
- To meet the RPS goals and avoid the risk of non-compliance with the CEC's RPS requirement, LADWP uses targets (forecasts) above the CEC's RPS ratio requirement. This will provide a hedge against the above-mentioned risk factors.
- We set higher targets at the beginning of the year. It is typically more cost effective to purchase Renewable Energy Credits (REC) at the beginning of the calendar year. This will also provide a mitigation plan in the event some of LADWP's renewable resources do not perform as expected.
- Any excess RECs from one compliance period can be rolled over into the next compliance period.

Cable Replacement Program Scatter Map

Replacement of critical aging infrastructure to ensure continued reliability for customers - CABLE



Water Mainline Conditions & Planned Replacement Map

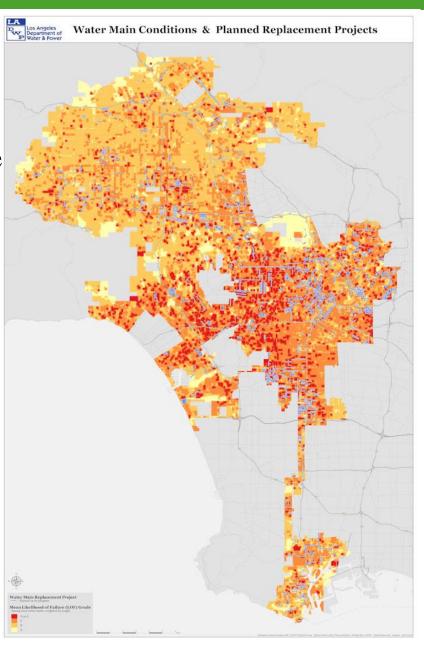
- Decisions to replace Water Mainlines take into consideration the Mainlines Likelihood of Failure (LOF) Grade
- The factors that contribute to the LOF Grade are:

Leaks Age

Material Diameter

Pressure Elevation

Soil Corrosiveness Hillside/Ground Movement



Sample Dashboard Reports

LADWP RATES METRIC - MAINLINE REPLACEMENT (Water) RESPONSIBLE MANAGER: Breonia Lindsey/Sandra Foster Cullul VREPORTING PERIOD: January 2017 DEFINITION OF RATES METRIC: Feet of mainline replaces against plan. TARGET & ACCEPTABLE VARIANCE (FY 16/17): 184,000 feet, 10% STATUS: Within Acceptable Variance **FYTD** Mainline Replacement Re-Estimate Budget / as of: (If Applicable) FY 16/17 Planned Feet % 250000 15,333 19,546 4213 27.5% Aug-16 30,666 39,075 8409 27.4% 200000 Sep-16 45,999 57,066 11067 24.1% 150000 15.4% 61.332 9464 Oct-16 70,796 Nov-16 76.665 84.737 10.5% 100000 91,998 95,014 3016 3.3% -2505 104,826 -2.3% 122,664 Feb-17 Mar-17 137,997 Apr-17 153,330 168,663 C Target and Acceptable Variance Acceptable Variance

SOURCE OF DATA: FI 26331, Job 30067

1. BACKGROUND / PURPOSE

· Mainline replacement is a portion of the Water System's strategy to maintain reliability, to reduce leaks and minimize interruptions and damage to the community.

3. PERFORMANCE / VARIANCE ANALYSIS & YEAR END PROJECTION

· Resources currently dedicated to replacing mainline will be diverted to working on the divisions other projects/goals in the later part of the year

4. MITIGATION PLAN AND / OR RECOMMENDATIONS

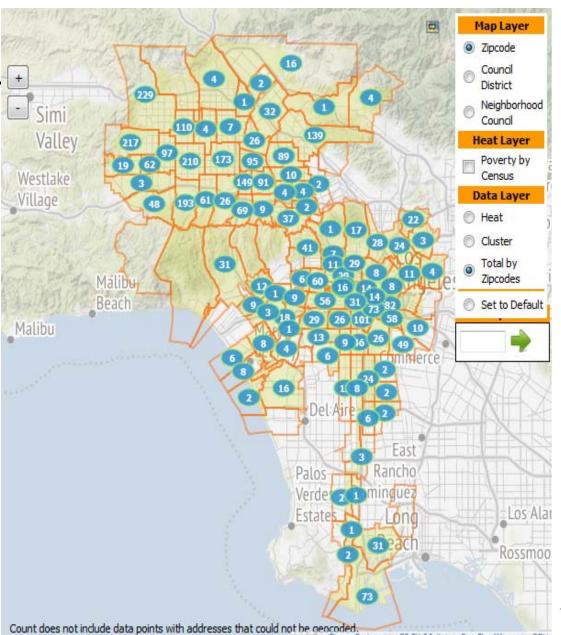
· Continue with planned hiring for additional mainline crews to meet footage goals

2. ACHIEVEMENTS / MILESTONES MET

- 104,826 feet of 184,000 installed
- · Mainline construction rate peaks in late summer and early spring. Production rate has decreased due to inclement weather in December and January

Commercial Direct Install

LADWP's Commercial Direct Install Program is available to qualifying businesses whose average monthly electrical demand is 200 kilowatts (KW) or less. After an energy and water use assessment is made, energy and water saving equipment is installed at the business at no cost to the business owner.



Key Features

- 1. Dashboard to Improve Performance
- Dollar vs Number of Rebates/Installations
- 3. Internal and External Audit of Data Collection Process
- 4. Standardization of Data format
- 5. Frequency of Data Collection
- System Platform Oracle Business Intelligence and ESRI Software