



CITY OF SANTA BARBARA

COUNCIL AGENDA REPORT

AGENDA DATE: March 22, 2016

TO: Mayor and Councilmembers

FROM: City Administrator's Office

SUBJECT: Presentation Of Southern California Edison Reliability Program

RECOMMENDATION:

That Council receive a presentation by Southern California Edison on their Downtown Santa Barbara Reliability Project.

DISCUSSION:

The Southern California Edison (SCE) Regional Manager of Local Public Affairs will make a presentation to Council on their Downtown Reliability Project (Project). Upgrading to newer equipment will modernize the power grid, make it more reliable, and minimize the duration of outages. During the Project, some customers may experience maintenance outages and traffic impacts. SCE will communicate with affected customers in advance so they can make appropriate arrangements.

The work involves several separate projects on different circuits in the City's downtown area to provide safe and reliable service to City customers. These improvements include underground re-cabling, installing new vaults and switches, and upgrades at multiple substations in the City.

PREPARED BY: Nicole Grisanti, Administrator's Office Supervisor

SUBMITTED BY: Paul Casey, City Administrator

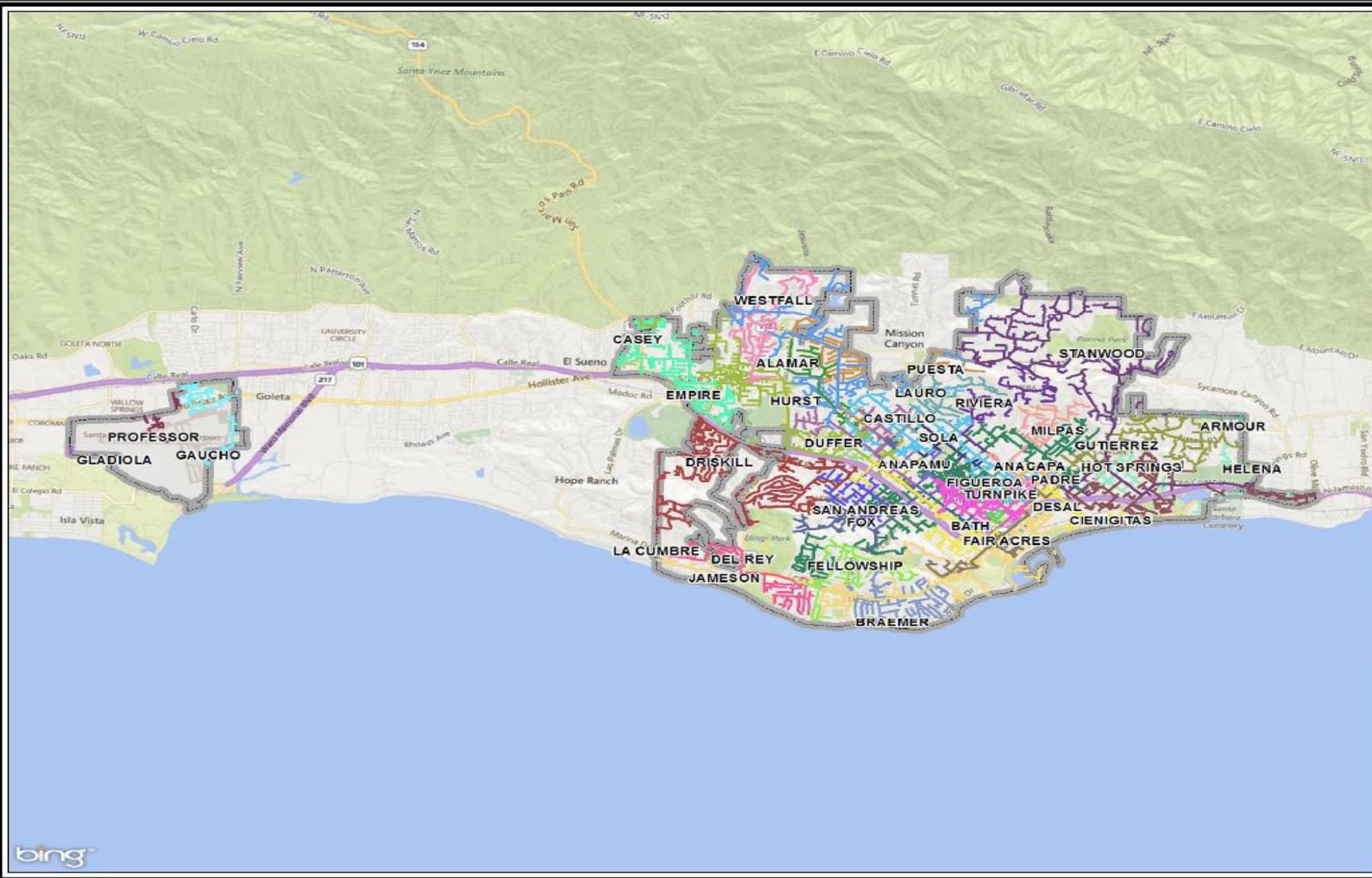
APPROVED BY: City Administrator's Office

Santa Barbara Downtown Reliability Project

March 2016

Agenda

- Santa Barbara Circuit Overview
- 2016 Capital Improvement Projects
- Downtown Circuit Overview
- Downtown Project Status Update
- Downtown Reliability Solution
- Communication Plan
- Distribution Inspection & Maintenance Program
- Underground Distribution Equipment Sampling



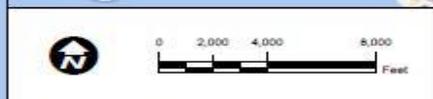
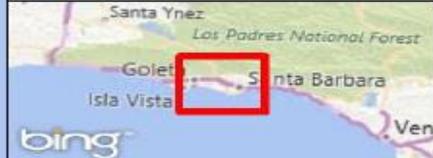
Santa Barbara

2016

Capital Improvement Plan

All Circuits

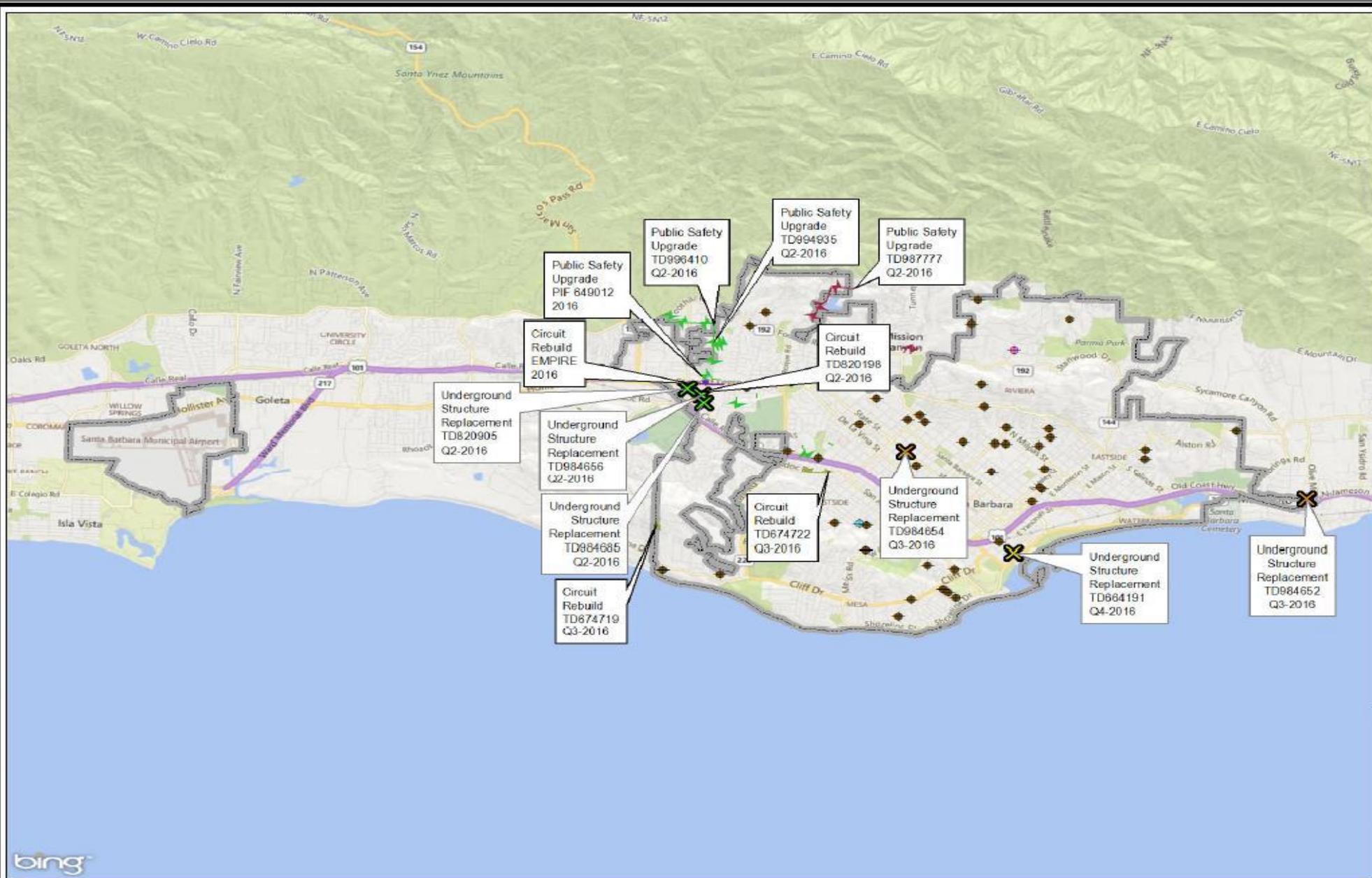
- City of Santa Barbara
- All Santa Barbara Circuits:**
- ALAMAR
 - ANACAPA
 - ANAPAMU
 - ARMOUR
 - BATH
 - BRAEMER
 - CASEY
 - CASTILLO
 - CHAPALA
 - CIENIGITAS
 - COURT HOUSE
 - DEL REY
 - DESAL
 - DRISKILL
 - DUFFER
 - EMPIRE
 - FAIR ACRES
 - FELLOWSHIP
 - FIGUEROA
 - FOX
 - GARDEN
 - GAUCHO
 - GLADIOLA
 - GUTIERREZ
 - HELENA
 - HOT SPRINGS
 - HURST
 - JAMESON
 - LA CUMBRE
 - LAURO
 - MILPAS
 - PADRE
 - PROFESSOR
 - PUERTA
 - RIVIERA
 - SAN ANDREAS
 - SOLA
 - STANWOOD
 - TURNPIKE
 - WESTFALL



File Name: SantaBarbara_2016_AC_v2.mxd
 Date: 1/26/2016
 Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale. Always consult with the proper legal documents or agencies regarding such features. Real Properties Department
 Service Layer Credits: © 2010 NAVTEQ © AND © 2016 Microsoft Corporation © 2010 NAVTEQ © 2016 Microsoft Corporation



Santa Barbara 2016 Capital Improvement Plan



- City of Santa Barbara
- UG Structure Replacement**
 - Q2-2016
 - Q3-2016
 - Q4-2016
- Replacements/Equipment Upgrade**
 - ELECTRICAL EQUIPMENT REPLACEMENT (1)
 - GRID MODERNIZATION (1)
 - WOOD POLE REPLACEMENT (47)
- Circuit Rebuild**
 - DRISKILL
 - EMPIRE
- Circuit Public Safety Upgrade**
 - DUFFER
 - HURST



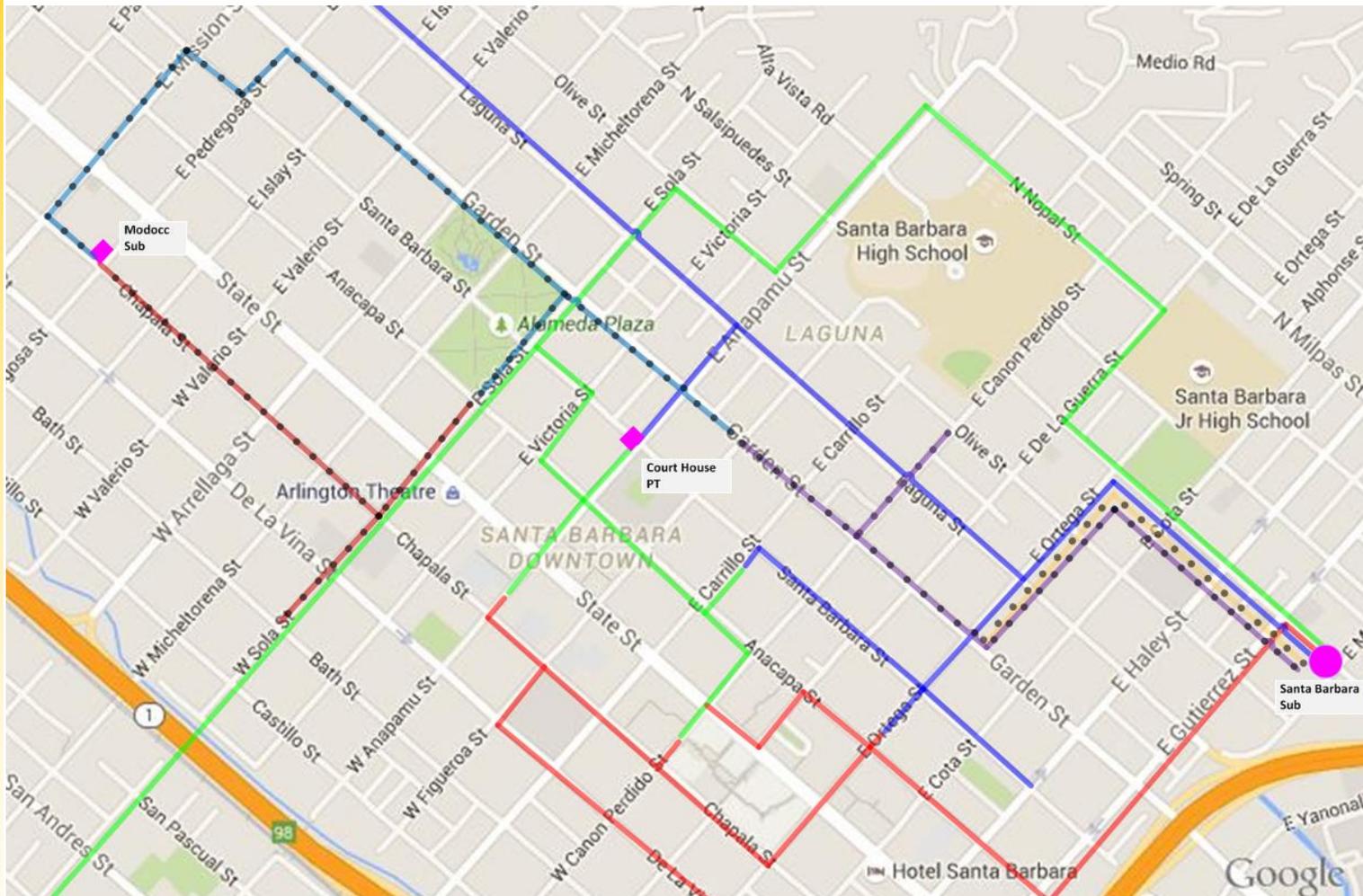
File Name: SantaBarbara_2016_CIP_v2.mxd
Date: 1/29/2016

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale. Always consult with the proper legal documents or agencies regarding such features. Real Properties Department

Service Layer Credits: © 2010 NAVTEQ © AND © 2016 Microsoft Corporation



Map of Downtown Santa Barbara



Downtown Santa Barbara fed by eight circuits out of Santa Barbara, Modoc, and Courthouse PT Sub

- Santa Barbara Sub
 - Milpas 16kV
 - Turnpike 16kV
 - Padre 16kV
 - Anacapa 4kV
 - Figueroa 4kV
- Modoc Sub
 - Anapamu 4kV
 - Sola 4kV
- Court House PT
 - Court House 4kV

Distribution System: Project Status Update

Completed Projects:

1. Vault Replacement on Padre 16kV Circuit

Description: Install new, underground vaulted structure and related equipment

2. Milpas-Duffer Circuit Tie

Description: Replace poles, wires and transformers

3. Milpas-Padre Circuit Tie

Description: Replace cable and underground equipment

4. Switch Replacement on Padre 16kV Circuit

Description: Replace 2 switches

5. Fast Track WCR

Description: Identify and install OH protection devices

6. Santa Barbara Substation

Description: Replace equipment



Distribution System: Project Status Update

In Progress:

1. Identify and Inspect critical radials for loading inspection (transformer loading, secondary and service loading)

Target: 2016 Ongoing

2. Identify and Inspect 135 Structures for integrity and reliability design

Target: **Completed**

3. Fault Indicator Project

Description: Identify and install circuit automation and fault indicators

Target: 2016 Q2

4. Duffer 16 kV Overhead Reconductor project

Description: Replace 1 mi. of OH conductor and install 32 branch line fuses

Target: 2016 Q2

5. Continue robust Vegetation Management

Target: Ongoing



SOURCE: SCE Facilities:
Santa Barbara Substation at 706 Gutierrez Street at
Quarantina

Long Term Solution

Cost: \$11M

Equipment	New	Replace	Remove
Padmount Above Ground Transformer		13	
Underground Vault Transformer		23	32
Mainline Cable	6,000'	900'	11,000
Radial Cable	2,700'	16,000	
Remote Control Switch Motor	4		
Underground Switch	30	10	
7'x14'x8' Vault		3	
7'x18'x8' Vault		16	
2-4" Conduit	800		
4-5" Conduit	3,300		

Implementation of this plan will:

- Reduce the overall circuit cable failure rates serving the downtown area by 55%
- Reduce chance of cable failing within project boundary to 5%

And would have prevented outages on the following dates:

- 8/11/2014: Mainline Cable Failure
- 11/26/2014: Mainline Cable Failure
- 1/15/2015: Mainline Cable Failure

Scope:

- Reduce dual voltage systems and associated equipment thus reducing failure points
- Replace mainline and radial cable
- Replace numerous transformers and switches
- Install new underground conduit and cable to create additional circuit ties to improve switching capabilities

Benefits:

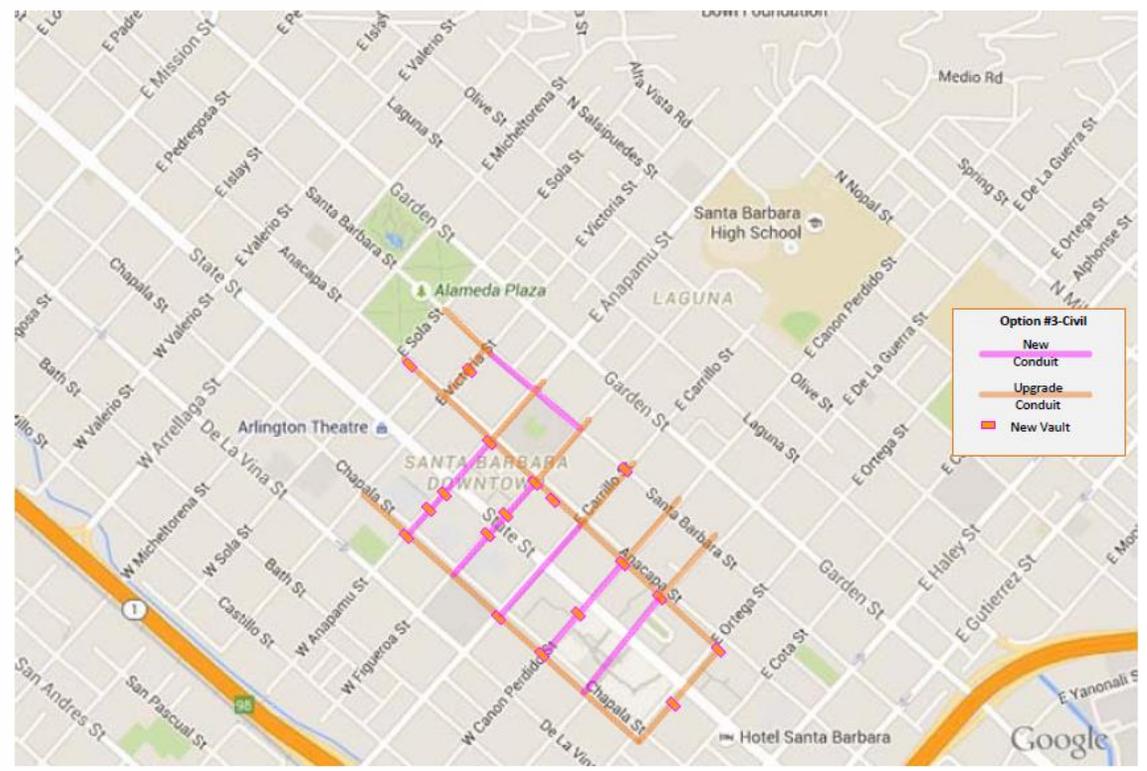
- Replaces both mainline & radial cable for the circuits in the downtown area
- Improves reliability and operability
- Increased automation will improve system restoration times

Challenges:

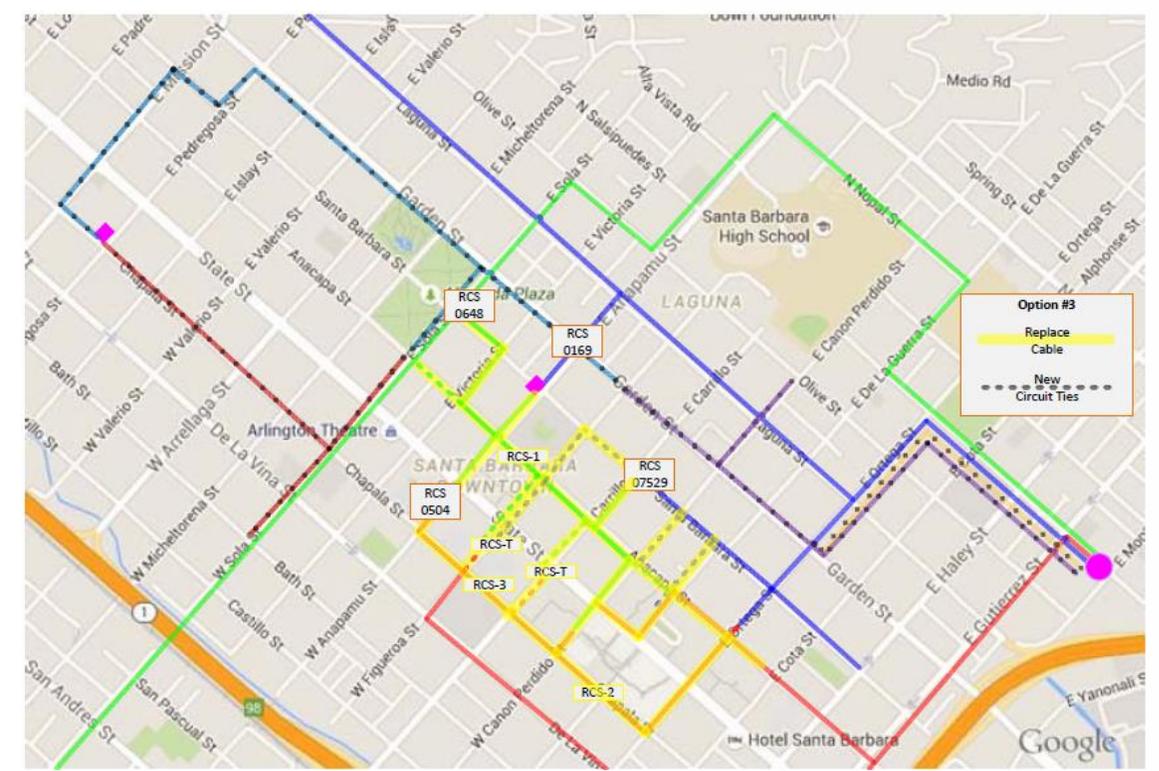
- Civil construction in downtown area
- Traffic impacts
- Required maintenance outages

Proposed Solution

Civil



Electrical



Circuit Reliability Project Timeline



Next Steps:

In progress- Survey the job site to develop the civil and electrical construction drawings

Q4 2016- Complete development of draft plans for civil work, easement and permit requirements

Communicating with the Community

- ❑ **Scheduled quarterly briefings on project status to City Council**
- ❑ **Downtown Project Kick-Off Open House prior to construction start**
- ❑ **Regular communications with downtown business leaders on construction impacts**
- ❑ **Social media communications**
 - **Targeted messaging**
 - **Partner with City and other orgs to link to websites or other communications channels**
- ❑ **Regular communications to local media regarding project status and local impacts**

Distribution Inspection & Maintenance Program DIMP

- Southern California Edison Distribution Inspection and Maintenance Program (DIMP) seeks to ensure public and worker safety, and regulatory compliance by completing scheduled Detailed Inspections and Grid Patrols through an ongoing, company-wide program and in conformance to the:
 - California Public Utilities Commission's (CPUC)
 - General Order (G.O.) 165 and performing Distribution Maintenance,
 - G.O. 95 & G.O.128
 - SCE Standards of Quality & Reliability
- General Order 165 was enacted on March 31, 1997 to establish maximum time intervals of inspection frequency of all electric distribution facilities within the jurisdiction of the CPUC.
- The premise of G.O. 165 is that all distribution assets must be patrolled for safety and reliability issues, and the identification of significant G.O. 95 and 128 discrepancies.
- General Order 165 requires assets to have a close-up, detailed inspection every 5 years (or less).
- DIMP is SCE's approach to ensure compliance in the assessment of over 2 million assets.

Downtown Santa Barbara Underground Structure Historical Data Sampling

Count Object Type	Install Year									Grand Total
	1926-1935	1936-1945	1946-1955	1956-1965	1966-1975	1976-1985	1986-1995	1996-2005	2006-2015	
UG BLOWER							7	10	15	32
FUSE CABINET			1	1			5	1		8
FAULT INDICATOR							2		3	5
MANHOLE	36	10	3	7	3	1				60
FUSE CUTOUT OIL	2			4	10	1				17
APPARATUS									2	2
SUMP PUMP									1	1
GAS SWITCH								11	32	43
SWITCH						3	2		1	6
VAULT	7	3	7	14	14	9	11	2	1	68
TRANSFORMER				6	10	25	37	47	56	181
Grand Total	45	13	11	32	37	39	64	71	111	423
Percentage	10.70%	3.10%	2.60%	7.60%	8.70%	9.20%	15.10%	16.80%	26.20%	100%

- Q4 2015- 135 conducted underground structure and internal equipment inspections

QUESTIONS?