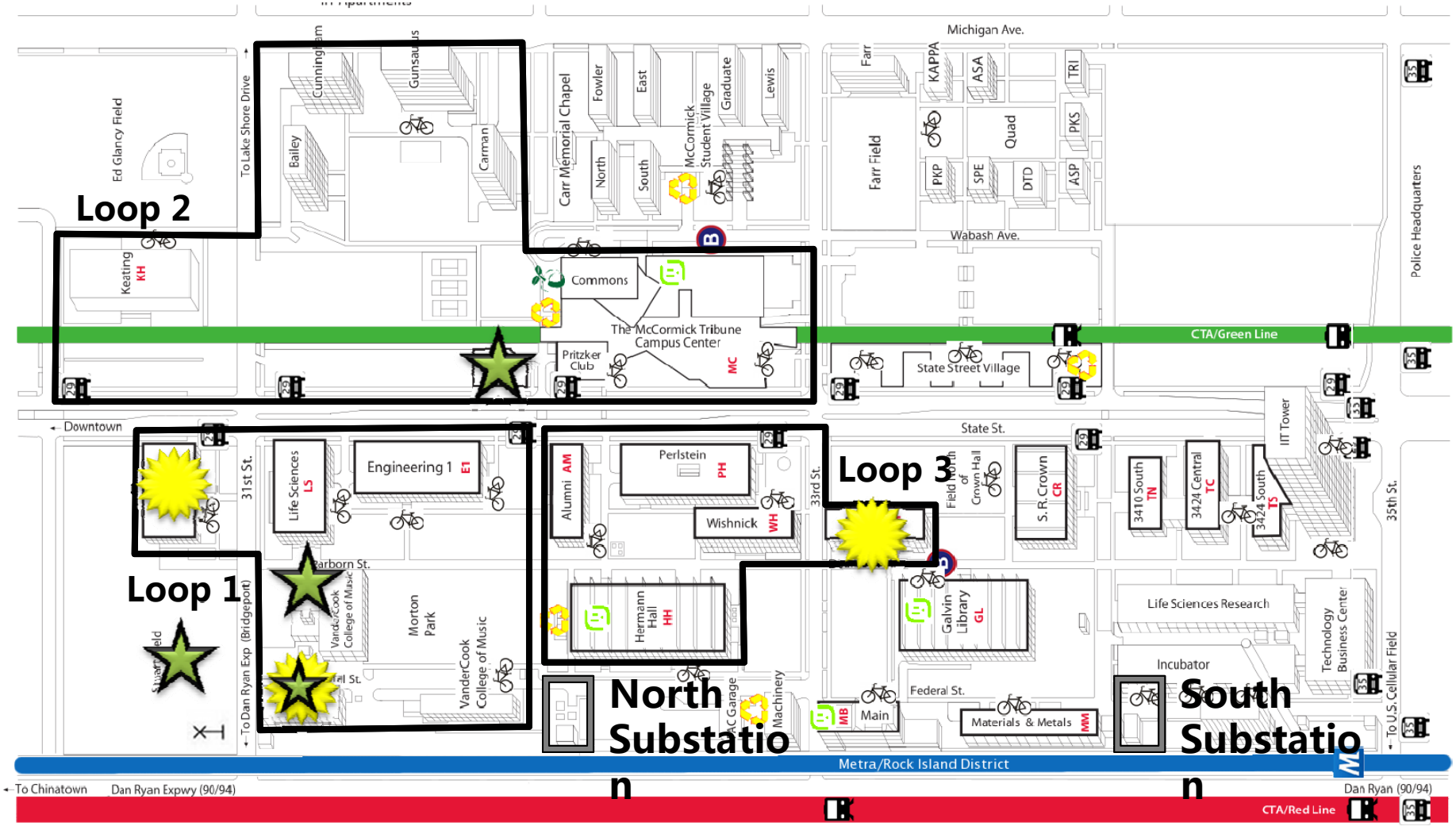
The Smartgrid Tipping Point:

Factors that move organizations to pursue change

Joseph F. Clair, P.E.

Advocate, Activist, Advisor



galvin center for electricity innovation at ILLINOIS INSTITUTE OF TECHNOLOGY

IEEE PES Power & Energy Society®

Demonstration of the viability of Perfect Power at IIT

Allow for a decrease of fifty percent (50%) of grid electricity demand
Create a permanent twenty percent (20%) decrease in peak demand from 2007 level

Deferral of planned substation through demand reduction

Demonstration of economic benefits of Perfect Power

A design that can be replicated on any micro-grid

Promote the Perfect Power prototype

U.S. DEPARTMENT OF ENERGY

$4.36 million $4.36 million

Infrastructure improvements

$4.00 million

Research

Demonstration of the viability of Perfect Power at IIT — $300-500k

Allow for a decrease of fifty percent (50%) of grid electricity demand — $0-500k

Create a permanent twenty percent (20%) decrease in peak demand from 2007 level — $200-750k

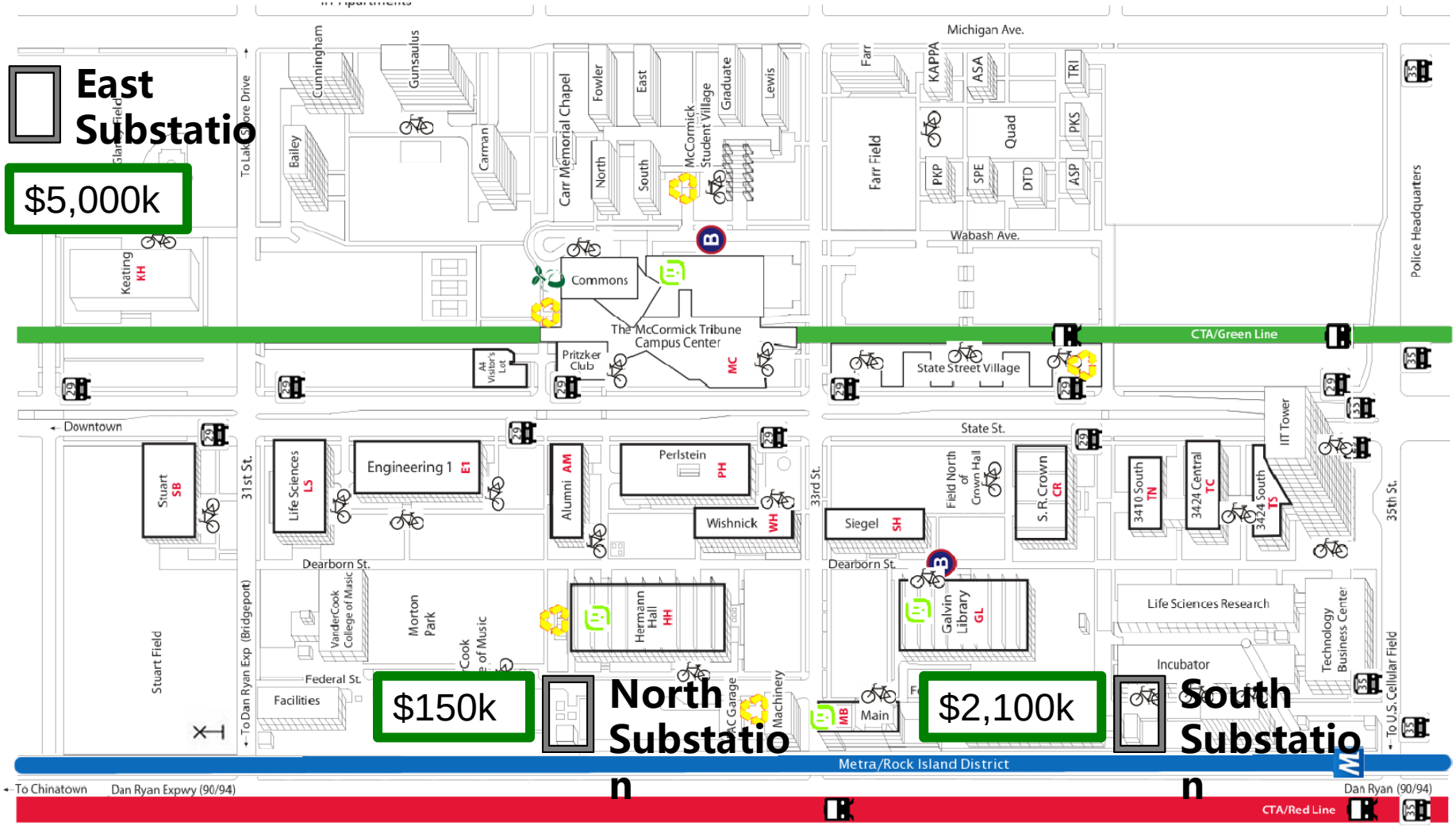
Deferral of planned substation through demand reduction

Demonstration of economic benefits of Perfect Power

A design that can be replicated on any micro-grid

Promote the Perfect Power prototype

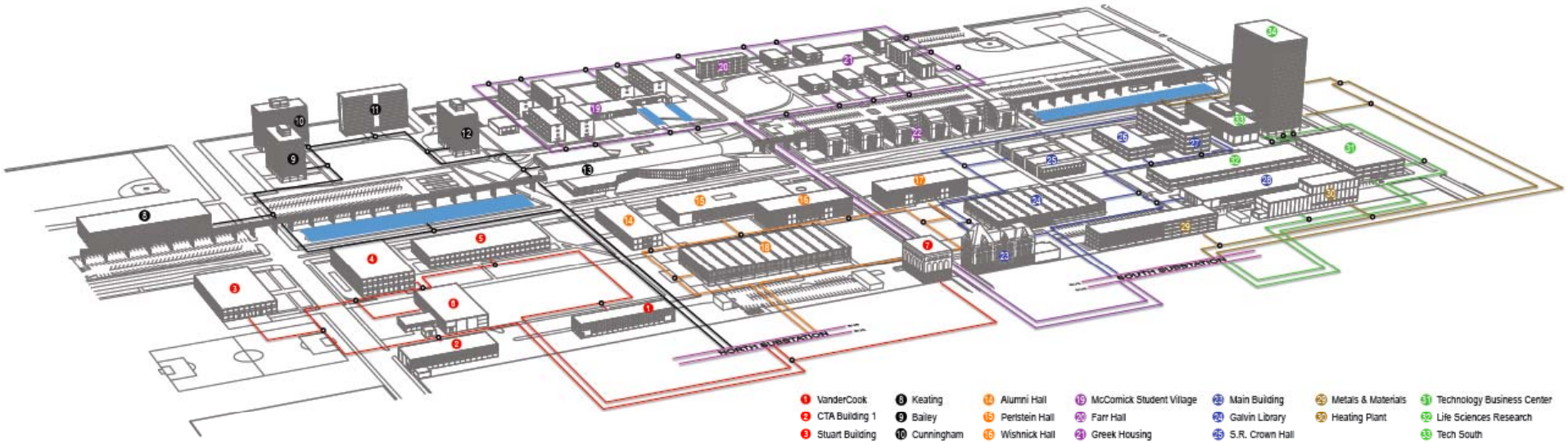
Potential Operational Savings: $500 – 1,750 k Annually


East Substation
$5,000k
$150k
North Substation
$2,100k
South Substation
Michigan Ave.
Wabash Ave.
State St.
Dearborn St.
Federal St.
Commons
The McCormick Tribune Campus Center
Pritzker Club
State Street Village
Engineering 1
Life Sciences
Perlstein
Alumni
Wishnick
Siegel
Hermann Hall
Galvin Library
Life Sciences Research
Technology Business Center
Incubator
Facilities
Main
Morton Park
Stuart Field
Police Headquarters
IIT Tower
CTA/Green Line
Metra/Rock Island District
CTA/Red Line
Dan Ryan Expwy (90/94)
Dan Ryan (90/94)
To Chinatown
Downtown
To Dan Ryan Exp (Bridgeport)
To U.S. Cellular Field
31st St.
33rd St.
35th St.

U.S. DEPARTMENT OF ENERGY

IIT Investment:	$4.36 million
Needed North Substation Investment:	$0.00 million
Needed South Substation Investment:	$2.10 million
Needed East Substation Investment:	$5.00 million

High Reliability Distribution System (drawing not to scale)
at the Illinois Institute of Technology - Main Campus



1 VanderCook
2 CTA Building 1
3 Stuart Building
4 Life Sciences
5 Engineering 1
6 CTA Building 2
7 Machinery Hall
8 Keating
9 Bailey
10 Cunningham
11 Gunsaulus
12 Carman
13 McCormick Tribune Campus Center
14 Alumni Hall
15 Perlstein Hall
16 Wishnick Hall
17 Siegel Hall
18 Hermann Hall
19 McCormick Student Village
20 Farr Hall
21 Greek Housing
22 State Street Village
23 Main Building
24 Galvin Library
25 S.R. Crown Hall
26 Tech North (3410)
27 Tech Central (3424)
28 Incubator (ERB)
29 Metals & Materials
30 Heating Plant
31 Technology Business Center
32 Life Sciences Research
33 Tech South
34 IIT Tower (IITRI)

Produced by:

Switch — Feeder Loop — Planned Building Development

Thank you!

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