



Helping to keep the lights on,
businesses running
and communities strong®

2015 10-Year Assessment Summary

October 2015

Topics

- Key Messages
- Capital Forecast
- Larger Projects by Zone

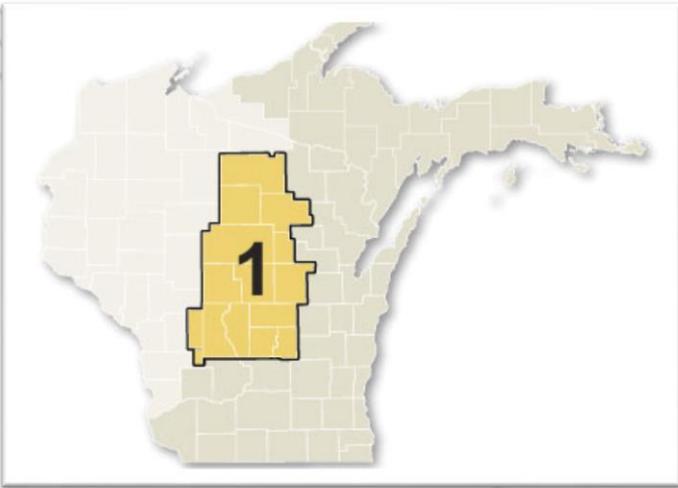
Key Messages

- Load forecast growth slightly higher in early years, but has a slightly lower long-term growth rate relative to 2014 Assessment.
- Some generation assumption changes
- Minor impacts of implementing TPL-001-4
 - 2 new projects
- Continue to participate in Regional Studies

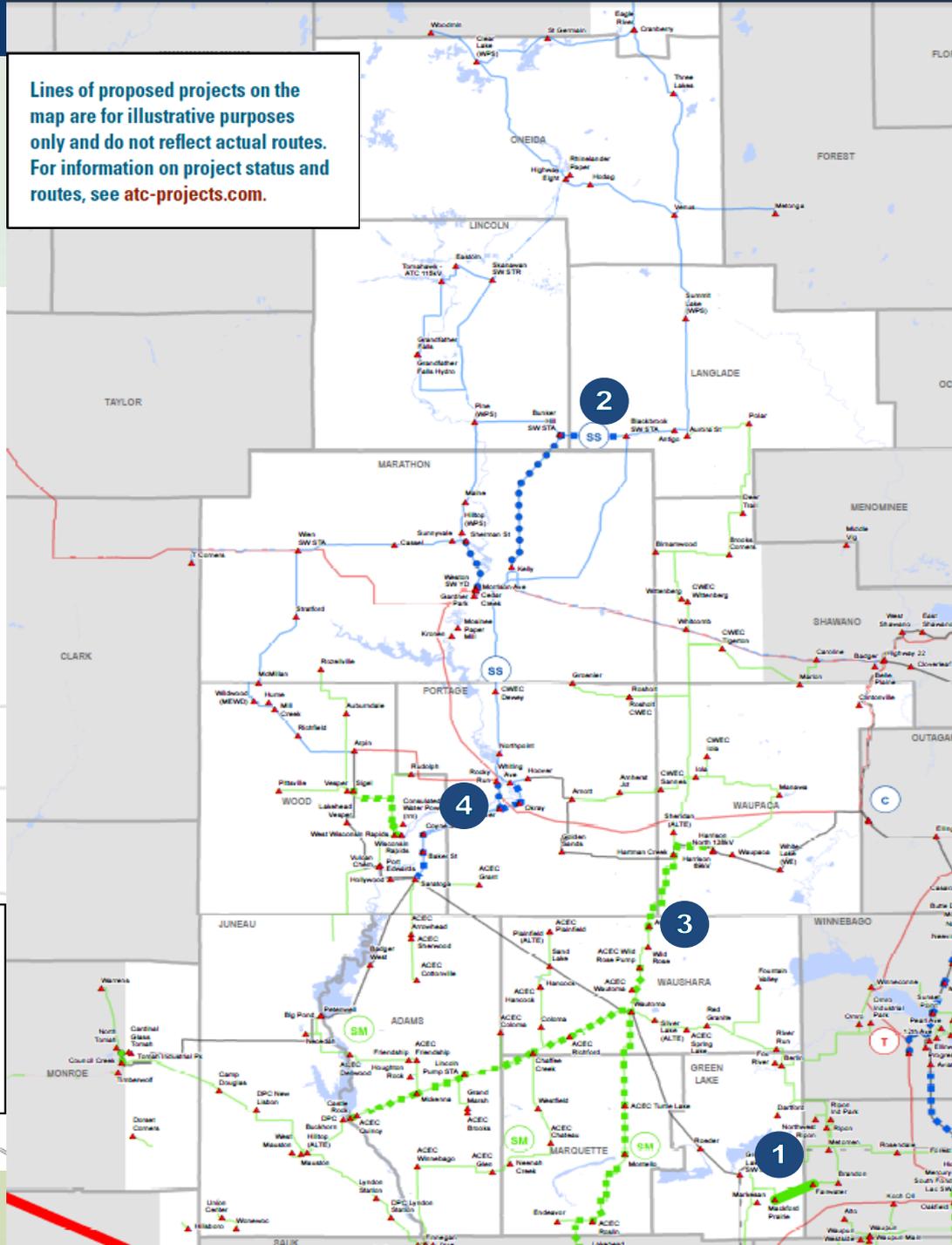
Capital Forecast

	2011	2012	2013	2014	2015
Specific Network Projects	\$1.0B	\$1.9B	\$1.2B	\$1.4B	\$1.4B
Regional Multi-Value Projects	\$0.7B	\$0.8B	\$0.5B	\$0.5B	\$0.5B
Asset Maintenance	\$1.0B	\$1.1B	\$1.1B	\$1.2B	\$1.4B
Other Capital Categories	\$1.1B/\$1.7B	\$0.1B/\$1.0B	\$0.2B/\$0.8B	\$0.2B/\$0.8B	\$0.4B/\$1.2B
Total 10-Year Capital Cost	\$3.8B/\$4.4B	\$3.9B/\$4.8B	\$3.0B/\$3.6B	\$3.3B/\$3.9B	\$3.7B/\$4.5B

Zone 1



Lines of proposed projects on the map are for illustrative purposes only and do not reflect actual routes. For information on project status and routes, see atc-projects.com.



System Solutions Key

- | | | |
|--|---|---|
| <p>SUBSTATION KEY</p> <ul style="list-style-type: none"> SS New substation
Supports transmission system expansion SM Substation modifications
Upgrades equipment ratings to avert facility overloads T Transformer
Supports local growth and improves voltage levels C Capacitor bank or reactor
Relieves low voltages or high voltages T-D T-D interconnection
Supports local growth | <p>TRANSMISSION LINE KEY</p> <ul style="list-style-type: none"> — 345-kV transmission line — 115-, 138- or 161-kV transmission line — 69-kV transmission line ■ Rebuilt 115- or 138-kV transmission line ■ Rebuilt 69-kV transmission line ● 115- or 138-kV transmission line rating upgrade ● 69-kV transmission line rating upgrade | <p>EXISTING TRANSMISSION LINES KEY</p> <ul style="list-style-type: none"> — 69 kV — 115 kV — 161 kV — 230 kV — 345 kV |
|--|---|---|

Zone 1 projects

PROJECT DESCRIPTION

IN-SERVICE YEAR

NEED DRIVER

Planned Projects

1	Fairwater-Mackford Prairie 69-kV line construction	2017	Network service, condition, overloads and low voltages
---	---	------	---

Proposed Projects

2	M13 Reinforcement Bunker Hill-Blackbrook	2019	Overloads and condition
---	--	------	-------------------------

Provisional Projects

None

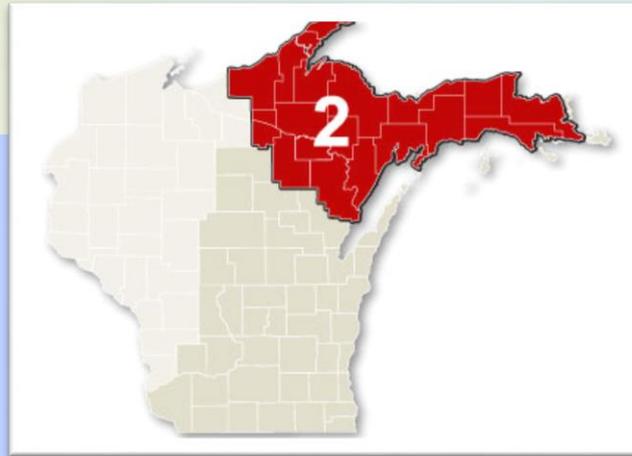
Asset Renewal Projects

3	Montello-Wautoma 69-kV line rebuild	2016	Condition and performance
---	-------------------------------------	------	---------------------------

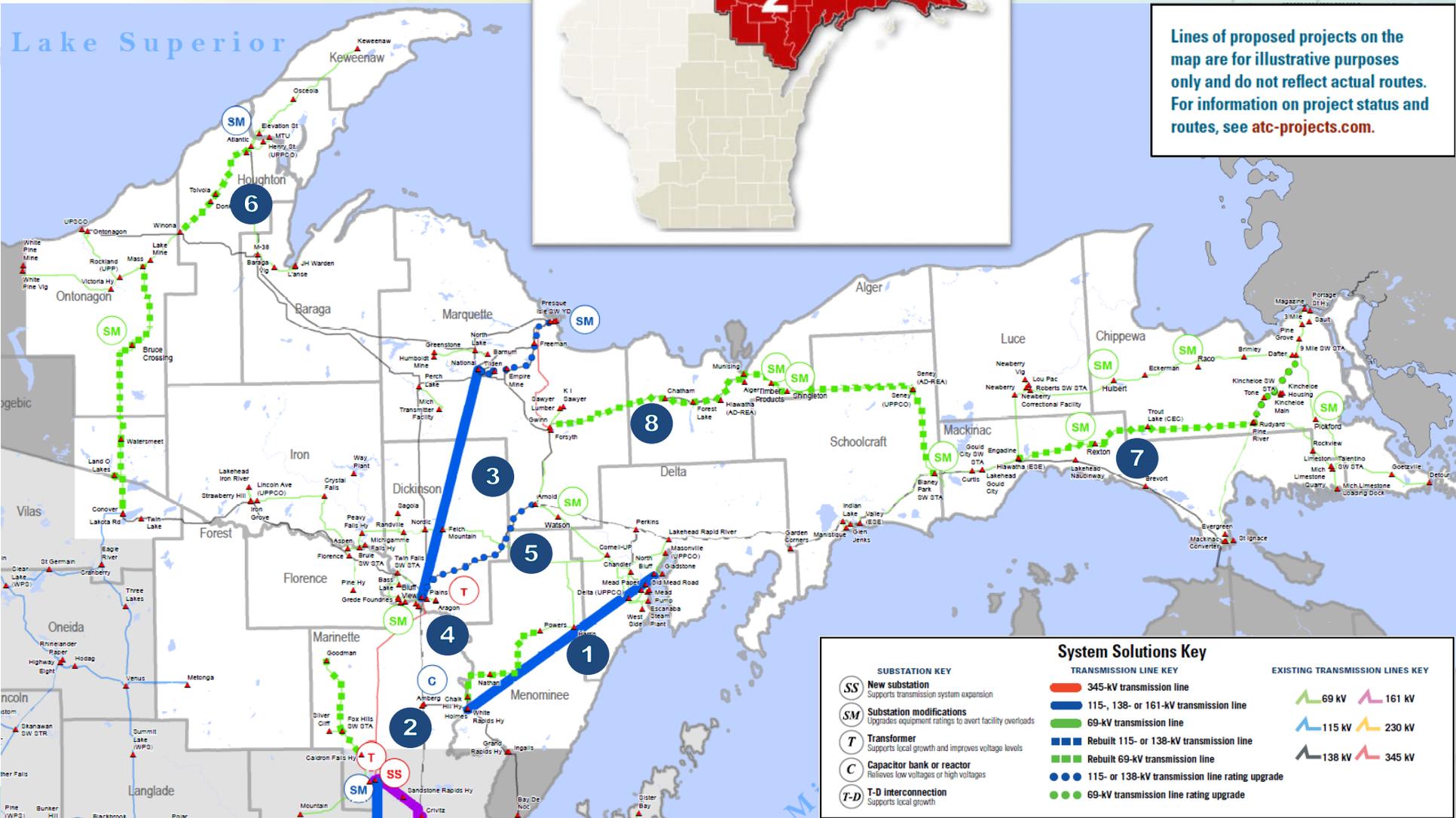
4	Plover-Whiting 115-kV line rebuild	2019	Condition and performance
---	------------------------------------	------	---------------------------

Additional projects may be found in the full 10-Year Assessment at atc10yearplan.com.

Zone 2



Lines of proposed projects on the map are for illustrative purposes only and do not reflect actual routes. For information on project status and routes, see atc-projects.com.



SUBSTATION KEY		TRANSMISSION LINE KEY		EXISTING TRANSMISSION LINES KEY	
SS	New substation Supports transmission system expansion		345-kV transmission line		69 kV
SM	Substation modifications Upgrades equipment ratings to avert facility overloads		115-, 138- or 161-kV transmission line		115 kV
T	Transformer Supports local growth and improves voltage levels		Rebuild 69-kV transmission line		230 kV
C	Capacitor bank or reactor Supports local growth and improves voltage levels		Rebuild 115- or 138-kV transmission line		138 kV
T-D	T-D Interconnection Supports local growth		115- or 138-kV transmission line rating upgrade		345 kV
			69-kV transmission line rating upgrade		

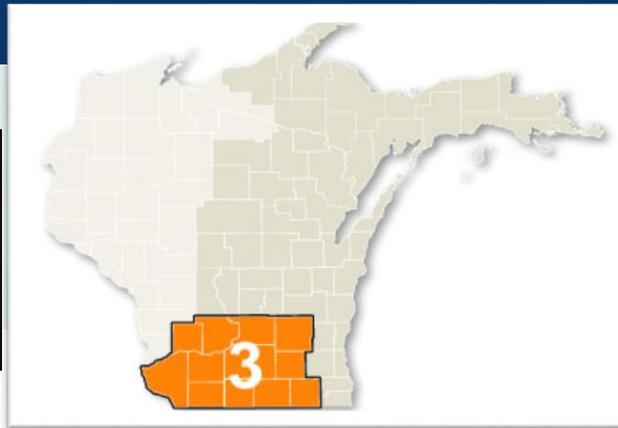
Zone 2 projects

PROJECT DESCRIPTION	IN-SERVICE YEAR	NEED DRIVER
Planned Projects		
1 Bay Lake: Holmes-Old Mead Road 138-kV project	2016	Overloads and low voltages
2 Bay Lake: Benson Lake 138-kV Substation – Installation of SVC	2019	Overloads and low voltages
Proposed Projects		
None		
Provisional Projects		
3 Plains-National 138-kV project	2020	Overloads and low voltages
4 Plains 345/138-kV project	2020	Overloads and low voltages
5 Plains-Arnold 138-kV uprate	2020	Overloads and low voltages
6 Winona-Atlantic 69-kV line rebuild	2022	Overloads and low voltages
Asset Renewal Projects		
7 Pine River-Hiawatha 69-kV line partial rebuild	2018	Condition and performance
8 Munising-Gwinn 69-kV line partial rebuild	2018	Condition and performance

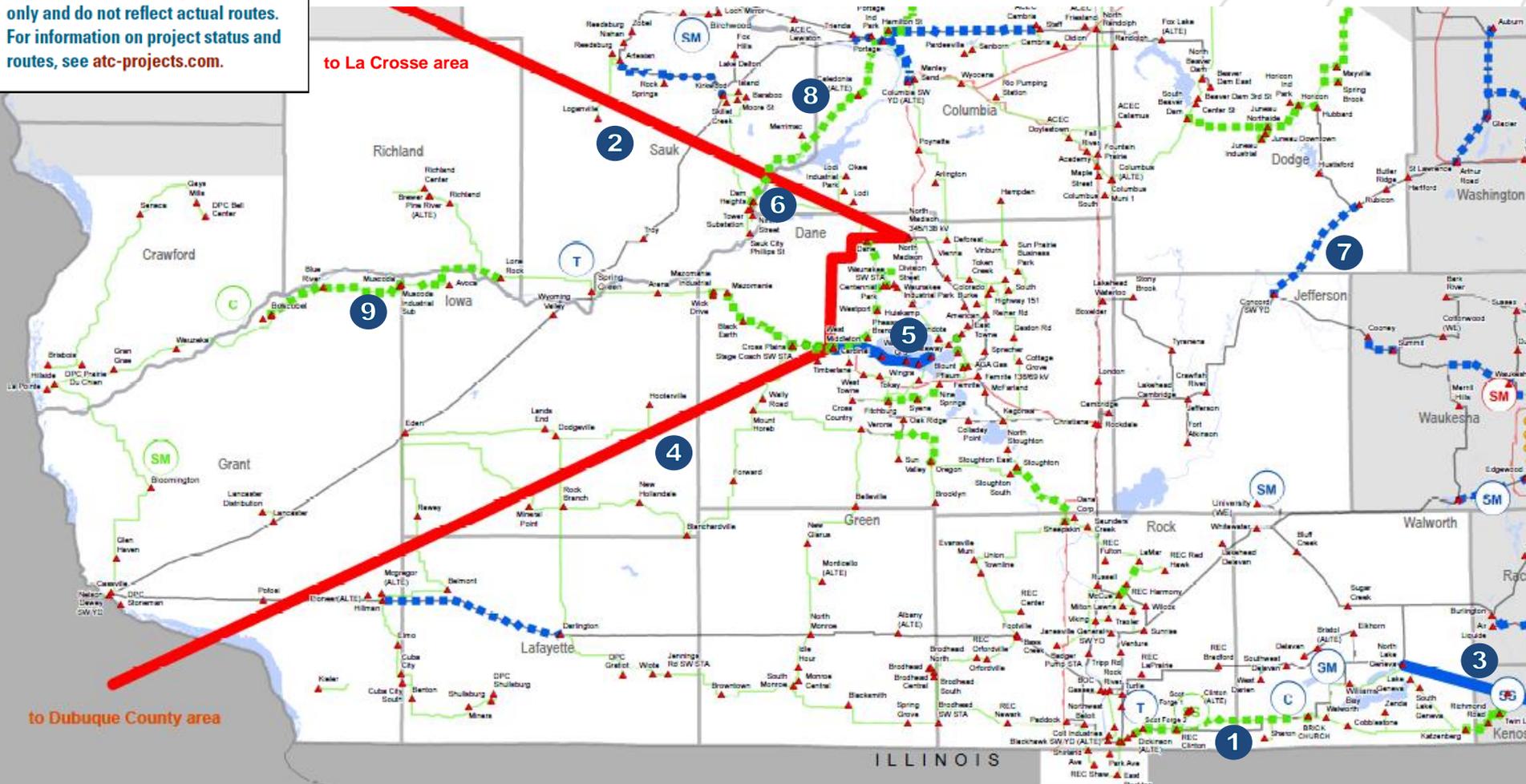
Additional projects may be found in the full 10-Year Assessment at atc10yearplan.com.

Zone 3

SUBSTATION KEY		TRANSMISSION LINE KEY		EXISTING TRANSMISSION LINES KEY	
SS	New substation Supports transmission system expansion		345-kV transmission line		69 kV
SM	Substation modifications Upgrades equipment ratings to avert facility overloads		115-, 138- or 161-kV transmission line		115 kV
T	Transformer Supports local growth and improves voltage levels		69-kV transmission line		230 kV
C	Capacitor bank or reactor Relieves low voltages or high voltages		Rebuilt 115- or 138-kV transmission line		138 kV
T-D	T-D interconnection Supports local growth		Rebuilt 69-kV transmission line		345 kV
			115- or 138-kV transmission line rating upgrade		
			69-kV transmission line rating upgrade		



Lines of proposed projects on the map are for illustrative purposes only and do not reflect actual routes. For information on project status and routes, see atc-projects.com.

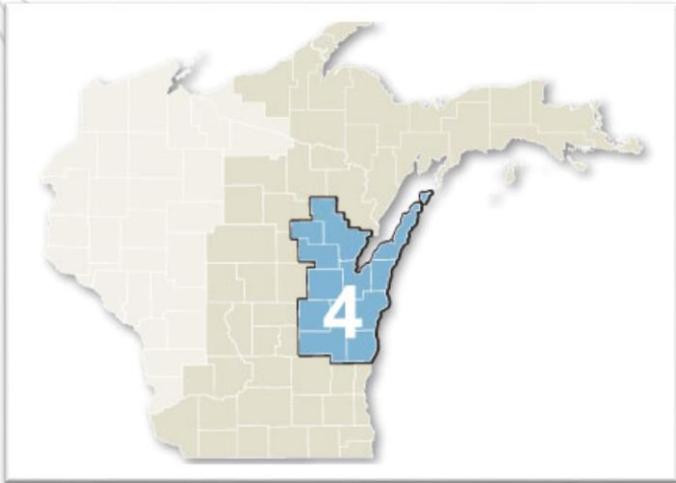


Zone 3 projects

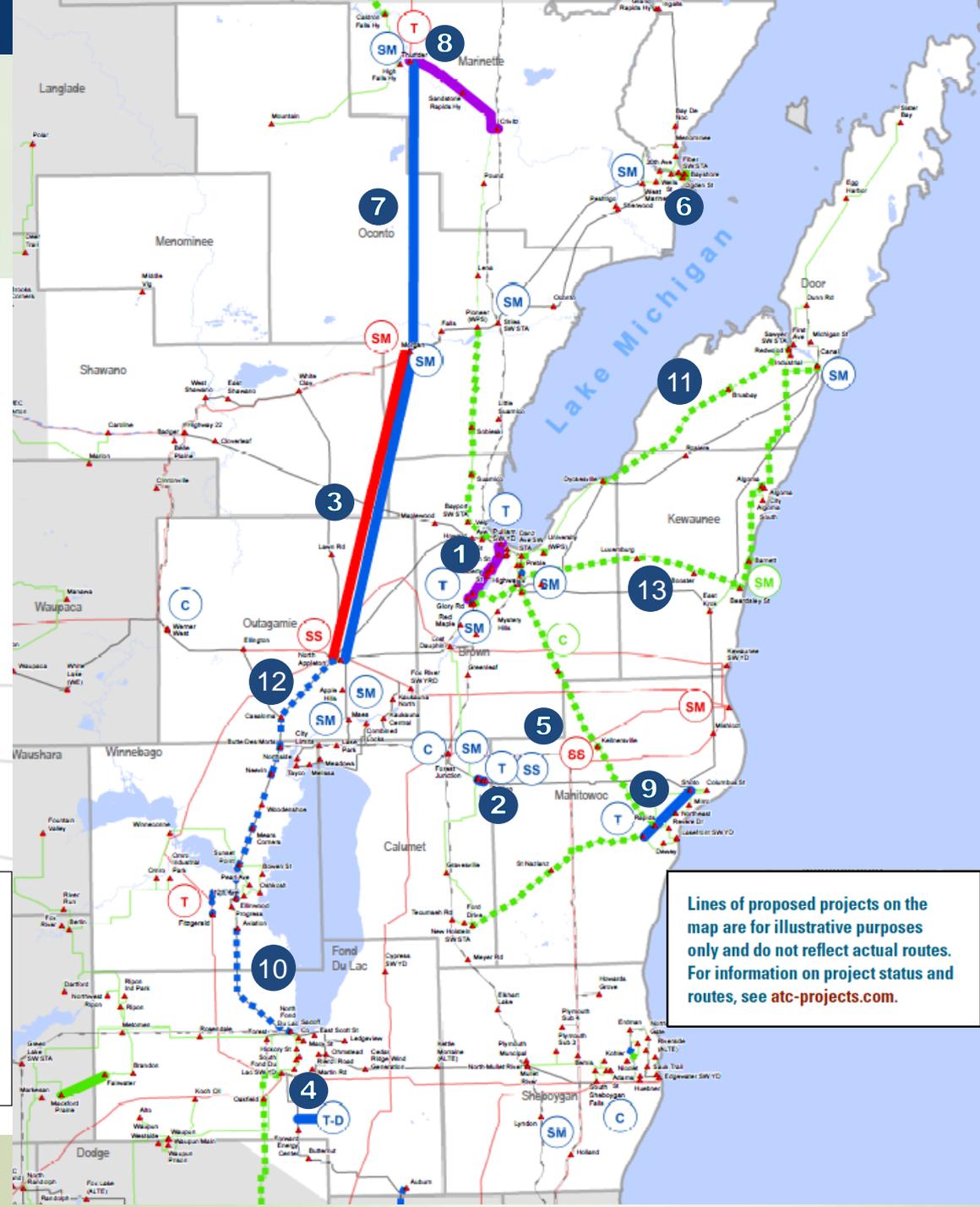
PROJECT DESCRIPTION	IN-SERVICE YEAR	NEED DRIVER
Planned Projects		
1 Colley Road-Brick Church 69-kV line	2018	Overloads, low voltages and condition
2 Badger Coulee: La Crosse area-North Madison-Cardinal 345-kV line construction	2018	Reliability, economics and public policy
3 Spring Valley-North Lake Geneva 138-kV line	2019	Overloads and low voltages, provide network service
Proposed Projects		
4 Cardinal-Hickory Creek	2020	Reliability, economics and public policy
Provisional Projects		
5 Cardinal-Blount 138-kV line construction	2029	Overloads and low voltages
Asset Renewal Projects		
6 Dam Heights-Dane 69-kV line re-route at dam	2015	Condition and performance
7 Concord-Rubicon 138-kV line rebuild (portion of Quad County Electric Reliability Project)	2016	Condition and performance
8 Dam Heights-Portage 69-kV line rebuild	2017	Condition and performance
9 Boscobel-Lone Rock 69-kV line rebuild	2019	Condition and performance

Additional projects may be found in the full 10-Year Assessment at atc10yearplan.com.

Zone 4



SUBSTATION KEY		TRANSMISSION LINE KEY		EXISTING TRANSMISSION LINES KEY	
SS	New substation Supports transmission system expansion		345-kV transmission line		69 kV
SM	Substation modifications Upgrades equipment ratings to avert facility overloads		115-, 138- or 161-kV transmission line		161 kV
T	Transformer Supports local growth and improves voltage levels		69-kV transmission line		115 kV
C	Capacitor bank or reactor Relieves low voltages or high voltages		Transmission line voltage conversion		230 kV
T-D	T-D interconnection Supports local growth		Rebuilt 345-kV transmission line		345 kV
			Rebuilt 115- or 138-kV transmission line		138 kV
			Rebuilt 69-kV transmission line		115- or 138-kV transmission line rating upgrade
			69-kV transmission line rating upgrade		69-kV transmission line rating upgrade



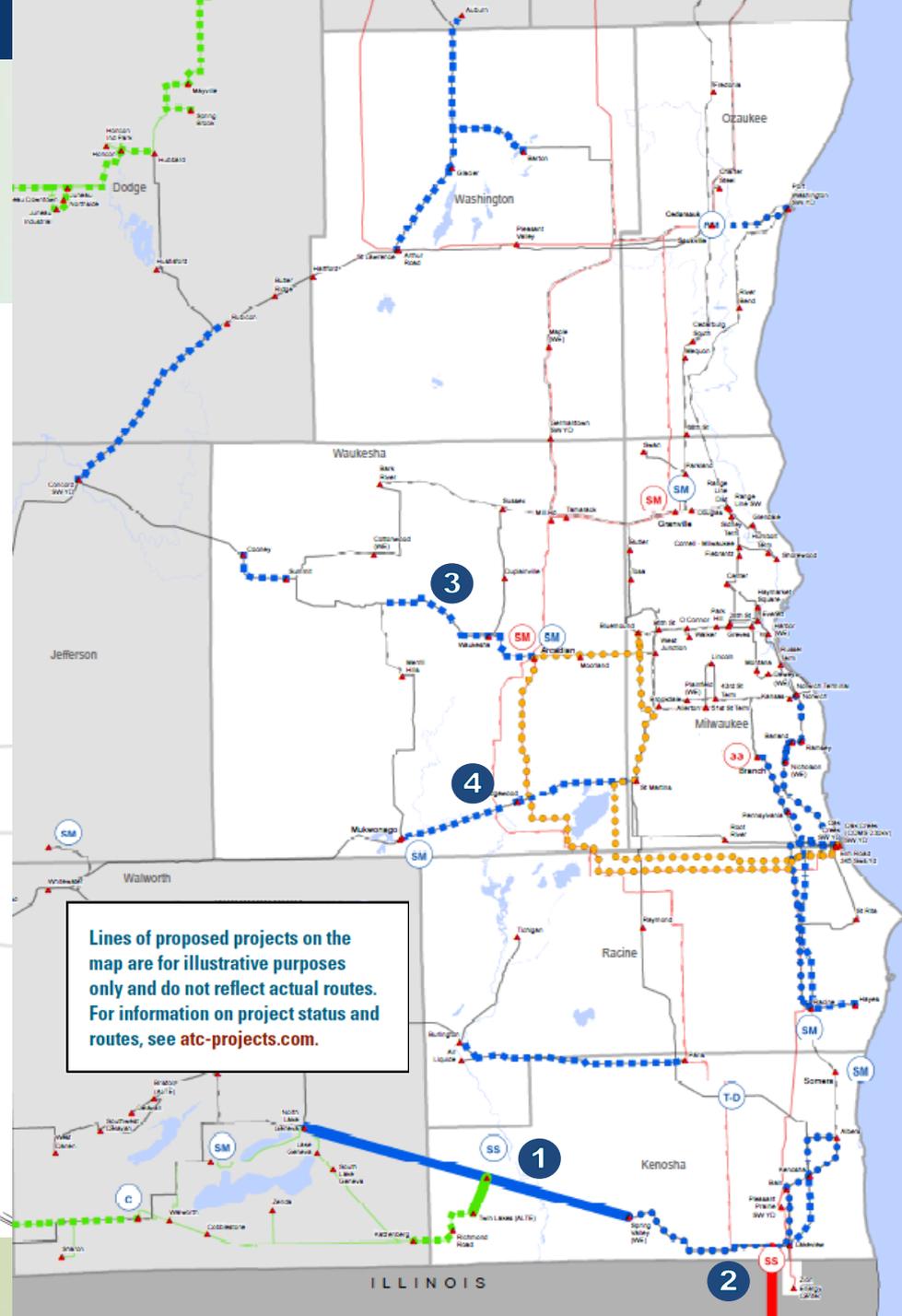
Lines of proposed projects on the map are for illustrative purposes only and do not reflect actual routes. For information on project status and routes, see atc-projects.com.

Zone 4 projects

PROJECT DESCRIPTION	IN-SERVICE YEAR	NEED DRIVER
Planned Projects		
1 Pulliam-Glory Road 138-kV line conversion	2016	Overloads and low voltages
2 Iron Foundry 138/69-kV Substation construction and Glenview-Iron Foundry 69-kV line extension	2016 2016	T-D interconnection Overloads and low voltages
3 Bay Lake: North Appleton-Morgan 345-kV and 138-kV line construction	2019	
4 Creekview Substation: 138-kV line construction to serve T-D interconnection	2017	T-D interconnection 2017
5 Branch River 345-kV Substation construction	2018	Accommodate new generation
Proposed Projects		
6 Ogden St.-Bayshore 69-kV line construction	2018	Provide network service
Provisional Projects		
7 Morgan-Thunder 138-kV project	2020	Overloads and low voltages
8 Morgan-Plains 345-kV loop into new Thunder 345-kV Substation	2020	Overloads and low voltages
9 Shoto-Custer 138-kV line	2022	Overloads and low voltages
10 Aviation-North Fond du Lac 138-kV line rebuild	2025	Overloads
Asset Renewal Projects		
11 Dyckesville-Sawyer 69-kV line rebuild	2016	Condition and performance
12 North Appleton-Butte des Morts 138-kV rebuild	2017	Condition and performance
13 Finger Road-Canal 69-kV line rebuild	2019	Condition and performance

Additional projects may be found in the full 10-Year Assessment at atc10yearplan.com.

Zone 5



System Solutions Key

- SS New substation**
Supports transmission system expansion
- SM Substation modifications**
Upgrades equipment ratings to avert facility overloads
- T Transformer**
Supports local growth and improves voltage levels
- C Capacitor bank or reactor**
Relieves low voltages or high voltages
- T-D T-D interconnection**
Supports local growth

- TRANSMISSION LINE KEY**
- 345-kV transmission line
 - 115-, 138- or 161-kV transmission line
 - 69-kV transmission line
 - Rebuilt 115- or 138-kV transmission line
 - Rebuilt 69-kV transmission line
 - 345-kV transmission line rating upgrade
 - 230-kV transmission line rating upgrade
 - 115- or 138-kV transmission line rating upgrade
 - 69-kV transmission line rating upgrade
- EXISTING TRANSMISSION LINES KEY**
- 69 kV
 - 115 kV
 - 161 kV
 - 230 kV
 - 138 kV
 - 345 kV

Zone 5 projects

PROJECT DESCRIPTION

IN-SERVICE YEAR

NEED DRIVER

Planned Projects

1	Spring Valley-North Lake Geneva line 138-kV construction	2019	Overloads and low voltages, provide network service
----------	---	------	--

Proposed Projects

2	Southeast Wisconsin- Northeastern Illinois Interface Project	2020	Overloads
----------	---	------	-----------

Provisional Projects

None

Asset Renewal Projects

3	Waukesha-Merrill Hills 138-kV line partial rebuild (portion of Quad County Electric Reliability Project)	2015	Condition and performance
4	Mukwonago-Edgewood-St. Martins 138-kV line rebuild	2018	Condition and performance

Additional projects may be found in the full 10-Year Assessment at atc10yearplan.com.

For more information

Visit the ATC 10-Year Assessment
website: www.atc10yearplan.com

Or contact

Ryan Solberg

Phone: 262-506-6805

Email: rsolberg@atcllc.com

